Maryland Transportation Authority

Martin O'Malley
Governor

Anthony Brown
Lt. Governor

Beverley K. Swaim-Staley
Chairman

Peter J. Basso
Rev. Dr. William C. Calhoun, Sr.
Mary Beyer Halsey
Louise P. Hoblitzell
Richard C. Mike Lewin
Isaac H. Marks, Sr., Esq.
Michael J. Whitson
Walter E. Woodford, Jr., P.E.

Ronald L. Freeland
Executive Secretary

Division of Procurement and
Statutory Program Compliance
2310 Broening Highway
Suite 160
Baltimore MD 21224
410-537-6769
410-537-1044 (fax)
410-355-7024 (TTY)
1-866-713-1596

e-mail: mdta@
mdtransportation
authority.com

www.mdtransportation
authority.com

March 10, 2010

TO ALL PURCHASERS OF CONTRACT DOCUMENTS:

RE: **Contract No. IC 2341-000-006**
Intercounty Connector, East Operations Center

ADDENDUM NO. 4

Ladies and Gentlemen:

It is important that you acknowledge receipt of this Addendum No. 4 on the referenced contract regardless if you will be bidding or not bidding.

Very truly yours,

Linda McGill, CPPB
Chief Procurement Officer

Enclosures

Contract No. **IC 2341-000-006**

This will acknowledge receipt of the attached Addendum No. 4.

_____
NAME OF COMPANY

_____ _____
SIGNATURE DATE

THIS SIGNED ADDENDUM ACKNOWLEDGEMENT PAGE SHALL BE RETURNED TO THIS OFFICE VIA **FAX AT 410-537-7801,** ATTENTION: MAGGIE JOHNSON PRIOR TO THE BID OPENING DATE.

IN ADDITION, THIS SIGNED ADDENDUM ACKNOWLEDGEMENT PAGE MUST BE ATTACHED TO THE OUTSIDE COVER OF THE BID BOOK. FAILURE TO DO SO MAY RESULT IN REJECTION OF YOUR BID.

Maryland
Transportation
Authority

Martin O'Malley
Governor

Anthony Brown
Lt. Governor

Beverley K. Swaim-Staley
Chairman

Peter J. Basso
Rev. Dr. William C. Calhoun, Sr.
Mary Beyer Halsey
Louise P. Hoblitzell
Richard C. Mike Lewin
Isaac H. Marks, Sr., Esq.
Michael J. Whitson
Walter E. Woodford, Jr., P.E.

Ronald L. Freeland
Executive Secretary

Division of Procurement and
Statutory Program Compliance
2310 Broening Highway
Suite 160
Baltimore MD 21224
410-537-6769
410-537-1044 (fax)
410-355-7024 (TTY)
1-866-713-1596

e-mail: mdta@
mdtransportation
authority.com

www.mdtransportation
authority.com

March 10, 2010

TO ALL PURCHASERS OF CONTRACT DOCUMENTS:

RE: Contract No. IC 2341-000-006
Intercounty Connector, East Operations Center

ADDENDUM NO. 4

Gentlemen:

A: The Bid Due date for the above referenced contract remains **March 16, 2010 by Noon**, and the Public Bid Opening Date remains **March 23, 2010 at 10:00 am.**

B: The following changes have been made to the **Invitation for Bids (Volume I)**:

Page No.:	**Description**
276	Section 012100, Paragraph 3.3: ADD the following new Paragraph 3.3.G:

"G. **Allowance No. 7 - Price Adjustment for Asphalt Binder:** A Price Adjustment (PA) will be made to provide additional compensation to the Contractor or a credit to the Administration for the fluctuation in the cost of asphalt binder. For adjustment purposes, the prevailing base index price will be the price specified for PG 64-22 Asphalt Binder posted at www.marylandroads.com (**Business Center** /Contracts Bids and Proposals) at time of bid opening. Cost differentials between PG 64-22 and a binder specified shall be included in the price bid per ton for Hot Mix Asphalt. A historical database will be maintained by the Maryland State Highway Administration.

The PA will be made when the index price for the month of placement increases or decreases more than 5 percent of the

prevailing base index price. Computations will be as follows:

Percent Change = ((Pp – Pb)/ Pb) X 100

PA = T x Q x ((Pp – (D x Pb))

Where:

PA	=	Price Adjustment for the current month
T	=	Design target asphalt content expressed as a decimal
Q	=	Quantity of Hot Mix Asphalt placed for the current month
Pp	=	Index price for PG 64-22 Asphalt Binder per ton for the month of placement
D	=	1.05 for increases over 5 percent; 0.95 for decreases over 5 percent
Pb	=	Prevailing base index price for PG 64-22 Asphalt Binder per ton

PA resulting in increased payment to the contractor will be paid under the item Price Adjustment for Asphalt Binder. The item amount will be established by the Administration and shall not be revised by the Contractor. PA resulting in a decreased payment will be deducted from monies owed the Contractor."

699 Section 076100, Paragraph 2.1.B.2: **DELETE** Paragraph and **REPLACE** with the follwing:

"2. Thickness: Nominal 22 gauge, unless noted otherwise."

702 Section 076100, Paragraph 2.5.B.1.a: **DELETE** the wording "...#33" and **REPLACE** with "...#2000".

703 Section 076100, Paragraph 2.5.B.1.b: **DELETE** the wording "...AP 400" and **REPLACE** with "...E-Rail".

832A-1 **ADD** new Section 083463 DETENTION DOORS AND FRAMES attached to Addendum No. 4.

C: The following changes have been made to the **Invitation for Bids (Volume II)**:

Page No.:	**Description**
58	Section 088000, **ADD** new Paragraphs as follows:

"2.10 FIRE-PROTECTION-RATED GLAZING

A. Fire-Protection-Rated Glazing, General: Listed and labeled by a testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 252 for door assemblies

B. Laminated Ceramic Glazing: Laminated glass made from 2 plies of clear, ceramic flat glass; 5/16-inch (8-mm) total nominal thickness; complying with testing requirements in 16 CFR 1201 for Category II materials.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Nippon Electric Glass Co., Ltd. (distributed by Technical Glass Products); FireLite Plus.

b. Schott North America, Inc.; Laminated Pyran Crystal.

c. Vetrotech Saint-Gobain; SGG Keralite FR-L."

260 Section 102213, Paragraph 2.3: **DELETE** Paragraph and **REPLACE** with the following new Paragraphs:

"2.3 HEAVY-DUTY WIRE MESH PARTITIONS

A. Mesh: 0.192-inch- (4.8-mm-) diameter, intermediate-crimp steel wire woven into 2-inch (50-mm) diamond mesh.

B. Vertical and Horizontal Panel Framing: 1-1/2-by-3/4-by-0.097-inch (38-by-19-by-2.5-mm) cold-rolled, C-shaped steel channels; with 3/8-inch- (9.5-mm-) diameter bolt holes spaced not more than 18 inches (450 mm) o.c. along center of framing.

C. Horizontal Panel Stiffeners: 2 cold-rolled steel channels, not less than 1 by 1/2 by 1/8 inch (25 by 13 by 3 mm), bolted or riveted toe to toe through mesh or1-1/2-by-3/4-by-1/8-inch (38-by-19-by-3-mm) cold-rolled steel channels with wire woven through.

D. Top Capping Bars: 3-inch-by-4.1-lb (76-mm-by-1.9-kg) hot-rolled steel channels.

E. Posts for 90-Degree Corners: 2-by-2-by-1/8-inch (50-by-50-by-3-mm) steel angles with 3/8-inch- (9.5-mm-) diameter bolt holes aligning with bolt holes in vertical framing; with floor anchor clips.

F. Posts for Other-Than-90-Degree Corners: Manufacturer's standard steel 2-inch- (50-mm) OD pipe or tubing with 3/8-inch- (9.5-mm-) diameter bolt holes aligning with bolt holes in vertical framing.

G. Adjustable Corner Posts: 2, manufacturer's standard steel pipe or tubing posts connected by steel hinges at 36 inches (900 mm) o.c. attached to posts; with 1/4-inch- (6-mm-) diameter bolt holes aligning with bolt holes in vertical framing.

H. Line Posts: 3-inch-by-4.1-lb (76-mm-by-1.9-kg) or 3-1/2-by-1-1/4-by-0.1265-inch (89-by-32-by-3.2-mm) steel channels; with 5-by-18-by-1/4-inch (125-by-450-by-6-mm) steel base plates punched for attachment to floor.

I. Three and Four-Way Intersection Posts: 2-by-2-inch (50-by-50-mm) tubular steel, with 3/8-inch- (9.5-mm-) diameter bolt holes aligned for bolting to adjacent panels.

J. Floor Shoes: Steel, cast iron, or cast aluminum, not less than 2 inches (50 mm) high; sized to suit vertical framing, drilled for attachment to floor, and with set screws for leveling adjustment.

K. Swinging Doors: Fabricated from same mesh as partitions, with framing fabricated from 1-1/2-by-3/4-by-1/8-inch (38-by-19-by-3-mm) steel channels or C-channels, banded with 1-1/2-by-1/8-inch (38-by-3-mm) flat steel bar cover plates on 4 sides, and with 1/8-inch- (3-mm-) thick angle strike bar and cover on strike jamb.

1. Hinges: Full-surface type, 3-1/2-by-3-1/2-inch (89-by-89-mm) steel, 1-1/2 pairs per door; bolted, riveted, or welded to door and jamb framing.
2. Padlock Lug: Mortised into door framing and enclosed with steel cover.
3. Cylinder Lock: Mortise type with manufacturer's standard cylinder operated by key outside and lever inside.

L. Accessories:

1. Adjustable Filler Panels: Not less than 0.0598-inch- (1.5-mm-) thick, cold-rolled steel sheet; capable of filling openings from 2 to 12 inches (50 to 300 mm).
2. Wall Clips: Manufacturer's standard, cold-rolled steel sheet; allowing up to 1 inch (25 mm) of adjustment.

M. Finish for Uncoated Ferrous Steel: Baked-enamel finish or Powder-coated finish.

1. Color: As selected by Architect from manufacturer's full range.

N. Wire Mesh Ceilings

1. Mesh, Framing, and Stiffeners: Fabricated from same mesh and framing as wire mesh partition panels.

2. Perimeter Partition Supports: 1-1/2-by-1-1/2-by-1/8-inch (38-by-38-by-3-mm) steel angle, with 1/4-inch- (6-mm-) diameter bolt holes aligned for bolting to top of wire mesh partitions and to sides of wire mesh ceiling panels.

3. Wall Supports: 1-1/2-by-1-1/2-by-1/8-inch (38-by-38-by-3-mm) steel angle punched for attachment to wall and wire mesh ceiling panels.

4. Intermediate Supports: Steel I-beam, as recommended by manufacturer.

5. Intermediate Support Posts: 2-by-2-by-1/8-inch (50-by-50-by-3-mm) steel pipe or tubing.

6. Finishes: Match adjacent wire mesh partitions."

261 Section 102213, Paragraph 2.4.A.3: **ADD** the following new paragraph:

"3. Partition Height: Fabricate to provide 12 foot height."

278 Section 102800, Paragraph 2.2.D.4: **ADD** the following new paragraph:

"4. Provide one in each Locker Room, group toilet room, and in each single occupant toilet room."

279 Section 102800, Paragraph 2.2.E.8: **ADD** the following new paragraph:

"8. Provide one at each lavatory."

280 Section 102800, Paragraph 2.2.G.8: **ADD** the following new paragraph:

"8. Provide one at each women's locker room."

280 Section 102800, Paragraph 2.2.H.6: **ADD** the following new paragraph:

"6. Provide one at each women's water closet and at each single use

toilet room."

280 Section 102800, Paragraph 2.2.I.6: **ADD** the following new paragraph:

"6. Provide one at each water closet."

282 Section 102800, Paragraph 2.3.D.5: **ADD** the following new paragraph:

"5. Provide one at each shower unit/stall."

283 Section 102800, Paragraph 2.4.B.4: **ADD** the following new paragraph:

"4. Provide at each lavatory."

284 Section 102800, Paragraph 2.5.C.7: **ADD** the following new paragraph:

"7. Provide for each janitor closet."

376 Section 124813, Paragraph 2.1.B.5: **DELETE** paragraph and **REPLACE** with the following:

"5. Mat Size: 4 ft. by 6 ft., at all entryways that are directly connected to the outdoors, with 6 ft. dimension in the primary path of travel, per LEED EQ Credit 5 "Indoor Chemical & Pollutant Source Control." Locations include Vestibule/Entrance/Corridor 100, 113, 119, 125, 126, 127, 133, 136, 137, 138."

389 Section 125500, Paragraph 2.7.A.7: **ADD** the following new paragraph:

"7. Provide two benches, one in Room 125, and one in Room 119."

394A-1 **ADD** new Section 129300 – SITE FURNISHINGS attached to Addendum No. 4.

414 Section 131200, Paragraph 1.3.A.3: **DELETE** Paragraph and **REPLACE** with the following:

"3. The foundation shall be a continuous reinforced concrete footing designed by pre-engineered building manufacturer with consideration to available bearing soil capacities and building loads, concrete retaining walls, and buttresses."

423 Section 131200, Paragraph 2.11: **ADD** the following new Paragraphs:

"2.11 ROOF HATCH

A. Roof Hatches: Metal roof-hatch units with lids and insulated single walled curbs, welded or mechanically fastened and sealed

corner joints, continuous lid-to-curb counterflashing and weathertight perimeter gasketing, integral metal cant and integrally formed deck-mounting flange at perimeter bottom. Basis-of-Design Product: Subject to compliance with requirements, provide Bilco Type NB or comparable product.

B. Type and Size: Single-leaf lid, 30 by 54 inches

C. Hatch Material: Stainless Steel

1. Insulation: Polyisocyanurate board.
2. Hatch Lid: Opaque, insulated, and double walled, with manufacturer's standard stainless steel metal liner of same material and finish as outer metal lid.
3. Curb Liner: Manufacturer's standard, of same material and finish as metal curb.
4. Fabricate curbs to minimum height of 12 inches (300 mm
5. Sloping Roofs: Fabricate curb with perimeter curb height that is constant. Equip hatch with water diverter or cricket on side that obstructs water flow.

D. Hardware: Stainless-steel spring latch with turn handles, butt- or pintle-type hinge system, and padlock hasps inside and outside.

E. Ladder-Assist Post: Roof-hatch manufacturer's standard device for attachment to roof-access ladder.

1. Operation: Post locks in place on full extension; release mechanism returns post to closed position.
2. Height: 42 inches (1060 mm\
3. Material: Stainless steel
4. Post: 1-5/8-inch- (41-mm-)."

441 Section 133419, Paragraph 2.10.A: **DELETE** Paragraph A in its entirety, and **REPLACE** with the following new Paragraph:

"A. Provide metal wall panels as Specified in Section 074213 - METAL WALL PANELS."

D: The following changes have been made to the **Invitation for Bids (Volume III)**:

Page No.: **Description**

216 Section 231126, Paragraph 2.2.B.10: **ADD** the following new paragraph:

"10. Nitrogen Tanks Enclosures: are provided for operation of control

valves to prevent freezing of the valve actuators. Each system consists of two 2 bottles, approximately 8" diameter and 60" tall, filled with approximately 3000 to 3500 psi nitrogen. These four nitrogen tanks/bottles will be leased by the Owner. The propane tank manufacturer / supplier shall provide two enclosures to house the two (2) nitrogen tanks each, as noted above. Each enclosure cabinet in which the tanks (2 tanks each) will be housed,.the piping from the tanks to the control valves, the control panel, tank pressure regulators and all valves and control appurtenances will be furnished by the propane skid manufacturer and pre-installed and piped. The enclosures shall be constructed and painted / finished suitable for outdoor exposed weather-tight duty, with lockable secured doors. (The nitrogen tanks will be leased directly by the owner as they require maintenance and replacement once the product pressure falls below usable limits.)"

524 Section 260543, Paragraph 5.1.A: **DELETE** Pay Item 260543-08 "Six Way, 4-Inch Duct Bank, Concrete Encased – per linear foot.

893 **DELETE** Section 330700 in its entirety and **REPLACE** with the following three new Sections (Section 330700, Section 330701, and Section 330702) attached to Addendum No. 4.

E: The following changes have been made to the **Invitation for Bids (Volume IV)**:

Page No.:	**Description**	
47	Schedule of Prices	**DELETE** this section in its entirety and **REPLACE** with new section "Schedule of Prices" dated March 9, 2010 and labeled "Addendum #4".

F. PLANS

Page No.:	**Description**
1 (Title)	**ADD** note stating "ADDENDUM NO. 4 –3/9/10 – SHEET NOS. 22, 62."
22(C6.3)	**REMOVE** notes that refer to "Wheel Stops" in the parking lot spaces. Wheel stops are not to be provided in these parking lot areas.
62(U3.0)	**ADD** the following NOTES to Fuel Service Island Plan on this sheet:

"2. Provide Steel Drum Trash Can and Spill Containment Kit at each Fuel Island.

3. Provide a total of six (6) submerged fuel pumps (two for each product stored – gasoline, E85, and diesel).

4. Provide a total of eight (8) side mounted fuel dispensers (two each for gasoline and E85, and four for diesel).

5. Provide a total of four (4) card readers (one each for gasoline and E85, and two for diesel).

6. Remote fuel fill with spill container provided may be side mounted or pedestal mounted as detailed."

G. The following written questions have been asked by contractors:

Question: The drawings show a different type of wall panel than is in the metal building systems specifications, section 2.10. What is the correct panel?

Response: The correct wall panel for the building is specified in Section 074213 Metal Wall Panels.

Question: Is there a specification section for the detention doors? I can't seem to find anything on those, just the hardware for them.

Response: See added specification Section 083463 Detention Doors and Frames for Detention Doors included in Addendum No. 4.

Question: I also cannot find anything referencing the make up of the fire rated glazing, there are doors that are 2 hr. rated and have glass in them and I don't see anything in the glazing spec.

Response: Glazing specifications updated in Addendum No. 4.

Question: Ref: Wire Mesh Partitions: I was able to locate the specification and the wire mesh in the Garage Bay Storage area. I can't find an elevation of the mesh. I was just wondering if I could get a height of the partition.

Response: Wire mesh partitions are to be 12'-0" in height and will be provided with ceilings.

Question: Please confirm that any required undercut and backfill within the footprint of the buildings will be paid for under item 312000-02.

Response: As noted in Section 011010, all grading of the site, even areas under the building structures, should be included in the Section 312000 pay items for excavation and backfill.

Question: For the Eastern Operations Center Bid, drawing U3.1 indicates the #7 re-bar for under the new AST tanks, it doesn't indicate the re-bar for between the 2 AST tanks in which this will be the drive thru area nor the 12 feet on the outside, it only states concrete payment. Could you please tell me what type of re-inforcing is to go into these areas.

Response: See Civil Plans and Paving Details. Civil plans call for areas with 10" and 8" reinforced concrete pavement, and the details are on Sheet C11.1.

Question: In the specifications section "Instructions to Bidders" there are multiple references to both a "Technical Submittal" and "List of Minimum Requirements". We see the List of Minimum Requirements on pages 24 thru 29 but do not see the requirements for the Technical Submittal. Please clarify. Are they one in the same?

Response: The List of Minimum Requirements is part of the Technical Submittal.

Question: How many copies of the contents of envelope B are required to be included?

Response: One original.

Question: Note 7 on sheet C2.2 refers us to sheet S6.0. This sheet does not exist. Please clarify.

Response: Sheet S6.0 added to project under Addendum No. 3.

Question: Under what items are the 8" DIP and manholes that drain the 6" DIP roof drains to the storm drain system paid under?

Response: Addressed under Addendum No. 3. Pay item for the 8" DIP has been added to the Schedule of Values and specifications.

Question: Under what item are the wheel stops in the parking lots paid?

Response: Wheel stops are not required. Removed as part of Addendum No. 4.

Question: Is it your intent for the roof structure of the Salt Storage Building to rest on the concrete retaining wall, for the concrete retaining wall to be inside of the roof structure, the concrete retaining wall to be outside of the roof structure or is this at the discretion of the pre engineered building manufacturer?

Response: The basis of design pre-engineered building product has its roof structure bearing on buttresses and on the concrete wall. The buttresses are integral to the concrete wall. Position of the roof relative to the wall is the purview of the building manufacturer's engineer. Building must be weather tight. See Section 131200 Paragraph 2.1.3A.

Question: On drawing P3.0 there is a detail # 3 for the liquid petroleum tanks. In this

detail are two N2 tanks. There is no reference to any piping from these tanks to the building. On M0.3 the liquid petroleum tanks are located at the top of the drawings and there is no reference to the N2 tanks or piping. Are these existing tanks? If not, who will be responsible for providing them? Please clarify.

Response: These are nitrogen tank enclosures (each enclosure houses two nitrogen tanks) that provide gas for operating the propane tank control valves. The two enclosures are new, and are to be supplied by the contractor through the propane tank manufacturer / supplier. Additional information on the nitrogen tank enclosure requirements has been included in Addendum No. 4.

Question: Is the cost for the work to be completed by APC to be included in the lump sum item for the Operations Building, is it part of one of the allowance items or handled otherwise by the MdTA?

Response: Work being furnished and installed by APC is not in this contract. MDTA will being obtaining their services through a separate contract mechanism. Contractor under this project will coordinate with APC as their items are installed by APC. As noted on the plans, the Contractor is to provide sleeves through the building wall for the refrigerant lines that are being furnished and installed by APC. Contractor is also providing concrete pads for the outdoor condensing units (the condensing units are being furnished and installed by APC.)

Question: There appears to be approximately 14,000 CY of borrow for the Project. There does not appear to be a bid item for this work. How is it to be paid?

Response: Per the earthwork summary on sheet C4.2, there are 55,737 CY of excavation available for embankment and 49,337 CY required for embankment.

Question: There is a 30 outlet trap primer distribution unit on the plumbing drawings. There is no pipe drawing for the lines feeding the floor drains. Will one be provided? Can multiple distribution units be used in lieu of the 30 unit to eliminate unnecessary underground piping?

Response: A plan showing the ½" water lines was not planned to be provided. Notes are provided on Sheet P1.4 and P2.0 giving direction to run the pipes from the manifold to each floor drain. These pipes should be concealed similar to the other plumbing piping as specified.

Question: With regard to the metal wall panels and soffit panels, the specifications call for a galvanized steel sheet not less than 0.034" which would be 20 gauge. We have been told that the manufacturer cannot fabricate this due to the weight of the material. Please clarify the metal requirements.

Response: The basis of design product by Centria is available in 18, 20 and 22 gage per

the manufacturers published data.

Question: There is a wire mesh partitioning found in the Garage Bay Storage area of the Intercounty Connector East Operations Center. There is no elevation of these partitions found. What is the height of these wire mesh partitions? Any information would be greatly appreciated.

Response: Wire mesh partitions are to be 12'-0" in height and will be provided with ceilings.

Question: On the Bid form's Schedule of Prices for East Operations Center there are two line items I'm not sure about: 329300-29 Cubic Foot Plant relocation and 329300-30 Cubic Foot Abandoned Planting Pits. Could you clarify?

Response: 329300-29 Cubic Foot Plant relocation – refers to a situation where the contractor has to move a tree (or shrub) due to shallow hard pan or rock not anticipated when digging. This line item covers the cost of moving this tree to another location. 29300-30 Cubic Foot Abandoned Planting Pits- this line item covers the cost of backfilling the soil (in the prior hole) dug before relocating the tree or shrub (see 32300-29 Plant relocation).

Question: Is my understanding correct that a lump sum price will be used for floor mats? There are none shown on the drawings but there is a 4' x 6' size in the spec. Please confirm.

Response: Cost to be included in the building lump sum pay item as specified. Quantity of mats has been included in Addendum No. 4.

Question: Spec section 133419 covers the pre-engineered storage building and the Vactor dump building. Some of the requirements of this spec section related to metal building systems and components differs from building components referenced elsewhere in the bid documents, Can we assume that the spec section 133419 takes precedence in the event of a conflict?

Response: Metal panels updated in Addendum No. 4.

Question: Are the hollow metal frames for doors 114A and B at room 114 type I as indicated on drawing 8.0? They appear different on A1.1.

Response: As indicated on Sheet A8.0, Type 1.

Question: Is door 300 at Police Storage (reference A10.0) an overhead ceiling door?

Response: Yes.

Question: Please confirm what louvers are required at rooms 136 and 137 (reference 1/M2.0 and 2/A4.1).

Response: Follow mechanical drawings M2.0 and M5.2, two total.

Question: Is louver L-10 at room 161 (reference M1.2) above the door? (reference 5/A6.5)

Response: Yes, above the door.

Question: The following items listed in the specifications 102800 – Toilet Bath and Laundry Accessories are not indicated on contract drawings:

B – Under Lavy Guards
C - Utility Shelf
D - Waste receptacle
E - Liquid Soap Dispenser
D - Soap Dish
G - Sanitary Napkin Vendor
H - Sanitary Napkin Disposal
I – Seat Cover Dispenser

Please advise.

Response: Items updated in Addendum No. 4.

Question: Other than Grab Bars and Toilet Tissue Dispenser, are any other accessories per specifications 102800 required at toilet room 102? (reference A1.1)

Response: Items updated in Addendum No. 4.

Question: Other than Toilet Tissue Dispenser are any other accessories per specifications 102800 required at toilet room 130? (reference A1.1)

Response: Items updated in Addendum No. 4.

Question: Are any accessories per specifications 102800 required at the following rooms: 104, 111A, 126A and 135?

Response: Items updated in Addendum No. 4.

Question: Are any blinds required at exterior storefront aluminum windows? (reference 8/A8.0 types A, D, C and DD)

Response: No blinds required.

Question: How many prisoner benches are required? (reference 215500-8,2.7A)

Response: Two benches required.

Question: What is the specification and scope for "Wall Fabric" shown at conference room 144 on sheet A9.6

Response: Wall fabric in Conference Room 144 to be wrapped homasote. Location is along entire length of north wall.

Question: Please confirm only 1 copy of Volume IV is to be provided in Bid Envelope B.

Response: One copy only needed.

Question: What is the extent of division 071113 – "Bituminous Damproofing"? None of the drawing details indicate any is required.

Response: See Detail 4/A6.2 & Section 071113, Paragraph 3.5.D. Install in all masonry cavity walls.

Question: Referencing specification section 078413 "Through – Penetration fire step systems" .... Is the scope for this work per interior full height walls shown on A2.10 and interior full height walls per A1.3 "Attic Floor Plan and A1.2 "Wing B"?

Response: Yes, all full height walls require fire proofing.

Question: Where is drawing S6.0 mentioned on note 7, sheet C2.2, Addendum #2 drawing?

Response: See Addendum No. 3.

Question: Where are sections, details and specifications for "Vactor Truck Dump Station with Overhead Canopy" mentioned on addendum #2 drawing U1.2?

Response: See Addendum No. 3.

Question: Where are the Details for the Vactor Sand Trap as shown on Drawing U1.2?
Response: See Addendum No. 3.

Question: Where on Bid Form is work associated with the Vactor Dump Station to be included?

Response: See Section 011010, Paragraph 1.2.A.1.l. All of these related costs should be included in the Pay Item 011010-01.

Question: Specification 23-21-13-15, 3.1, B.1 states that the above ground condenser

water piping 2 ½" and larger is to be schedule 80 black steel pipe. Is that correct?

Response: This should be Schedule 40.

Question: Will a thermometer and gauge be required on the supply piping as they are shown on the return side at each heat pump unit?

Response: Yes, provide a thermometer and gauge on the supply piping.

Question: The compressed air piping on Plan P1.11 is different in sizing then the schematic shows on P2.2? Please coordinate and advise.

Response: On P1.11 the supply main off the discharge of the compressor shows a size of 3/4" before the main tee. This is shown as an 1-1/2" line on the compressed air riser, which is the correct size. The compressed air riser shows two air compressors which is incorrect, there is a duplex compressor on a common tank as shown on P1.1 which is correct.

Question: The specifications for Communications Backbone Cabling does not a line it's self with the usage required for the on site project scope. Can we get a clarification on the proper material to be used on the site? The way the spec is written at present it is calling out for an interior cable to be used on site?

Response: Specification call for outdoor duty cabling, see Section 271300, Paragraph 2.2.B.12.

Question: The schedule of prices with quantities does not a line with the quantities that we have arrived at, we only show the following totals as listed with item numbers and quantities: #260543-01 3,180 lf, #260543-02 1,010 lf, 260543-03 565 lf, #260543-04 Zero, #260543-05 Zero, #260543-06 Zero, #260543-07 4,930 lf, #260543-11 5,515 lf, #260543-12 20 each, #260543-13 Zero, #260543-14 Zero, #265600-03 19 each.

Response: Use quantities in Schedule of Prices. Be sure to use all updates as provided in the addenda.

Question: There is no schedule of prices set up for the ¾" conduit which totals 930 lf?

Response: There is no ¾" conduit beyond five (5) feet outside of buildings. All of this conduit should be part of the associated lump sum bid prices for those structures per Section 011010 and electrical sections.

Question: Is the roof construction 5/8" FRT. Plywood over the roof purlins with 15# felt and the standing seam roof, with no insulation.

Response: Clip attached, see 133419, Paragraph 2.9. Insulation required at Police Storage Area, see Details A10.0 and Section 133419, Paragraph 1.2.D.

Question: Spec Section Referenced: 13 34 19 2.8.D
Drawing #'s referenced: 8/A10.0 (Sheet 123 of 211)
Question: the above referenced detail show horizontal girts spaced at 2'-0" on Center. This is not standard for prefabricated metal building structures. Can we provide girt spacing as necessary for standard construction which meets all applicable codes referenced?

Response: Pre engineered building manufacturer is responsible for design of structure and coordination with the wall cladding specified. Basis of design wall panels manufactured by Centria are horizontal units. Pre-manufactured building manufacturer's engineer may provide girt spacing as he finds adequate to meet applicable codes that also provide adequate structural sub framing for the vertical framing required for horizontal panels.

Question: Spec Section Referenced: 13 34 19 2.8.A
Drawing #'s referenced: 4/A10.2 & 2/A10.2 (Sheet 125 of 211)
Question: Please confirm that a portal frame is required at each service bay as the section shows. This requires placing an I beam header at the front and back of the structure in contrast to simply providing standard rod and girt bracing and girt header? This I beam header appears to be unnecessary at all the locations shown. Please verify

Response: Pre engineered building manufacturer is responsible for design of structure and coordination of cladding specified. Placement of any portal frames is within their purview. Final design must provide for full all clearances and opening shown.

Question: Spec Section Referenced: 13 34 19 1.2 D
Drawing #'s referenced: 4/A10.0 (Sheet 123 of 211)
Question: Please clarify the extent of insulation required at the Storage Building. Details of the structure do not show any insulation except at one wall of the Police Storage Area. The specification (13 34 19 1.2D1.a) calls out a roof panel assembly of R-30 but a ceiling detail (height, assembly..etc) could not be located. Please clarify.

Response: Per 13 34 19 1.2.D; provide insulation for the walls and roof of the Police Storage Area. Insulation details may be manufacturers standard.

Question: Spec Section Referenced: 07 61 00 & 13 34 19
Drawing #'s referenced: 5/A10.2 (Sheet 125 of 211)
Question: Please verify the metal gauges specified for the project are not standard gauges.

a. Sheet Metal Roofing 07 61 00 2.1B.2: specified thickness of 0.022 inches falls between 24 & 25 Guage. Is 24 guage acceptable?
b. Metal Roof Panels 13 34 19 2.9.1 specified thickness of .0269 inches is 23 Guage. This is not a Standard metal panel material. Is 24 Guage acceptable?
c. Metal Wall Panels 13 34 19 2.110.1

d. Metal Soffit Panels 13 34 19 2.11 B ; Specified to match the profile and material of the metal roof panels (.0269 inches) is 24 Guage acceptable fro this application?

Response: See revised specification sections included in this addendum.

Question: Spec Section Referenced: 13 34 19
Drawing #'s referenced: 2/A10.2 (Sheet 125 of 211)
Question: Standing seam metal roof is shown to be installed over 15 # felt to match main building at the Storage Building. How is this to attach/ the Main Building is detailed (3/6.1) with rigid insulation with mailer at similar roof condtion. Please advise.

Response: Drawing detail is revised in this addendum to delete 15# felt at storage building. Main building detail 3/A6.1 is not changed.

Question: Please clarify the intent of the specification section titled "Contract Provisions, Apprenticeship Training Fund". To our knowledge the DLLR has not published rules to implement the new law. Can you provide these rules? Is MDOT's version consistent with this statute?

Response: Attached are the DLLR quidelines for the Apprenticeship program.

Question: In the specifications section "Instructions to Bidders" there are multiple references to both a "Technical Submittal" and "List of Minimum Requirements". We see the List of Minimum Requirements on pages 24 thru 29 but do not see the requirements for the Technical Submittal. Please clarify. Are they one in the same?

Response: The Technical Submittal is the entire envelope A. This includes providing the List of Minimum Requirements filled out in its entirety and answering all questions listed.

Question: How many copies of the contents of envelope B are required to be included.

Response: Only one copy is needed for envelope B.

Question: Are we to include MDOT Form A (pages 74 & 75) in Envelope 'A'? Is that what is considered the MBE Utilization Affidavit. I think I maybe looking in the wrong place

Response: Yes form A is the MBE Utilization Affidavit and should be included in both envelope A & B.

Question: Are we to include the List of Minimum requirements with all sections completed (pages 07-12) in both Envelope A & Envelope B? I know we need to include an entire volume IV for envelope B, it just appears that this is redundant. As some of the information (i.e. CQS) appears to be required in both

Response: The list of minimum requirements needs to be included in only envelope A.

Question: Regarding the schedule of values can we submit a recreated spread sheet identical to that provided to aid us the computation of the final amount? We will number pages to match that as provided and will insert into the book appropriately

Response: Please refer to the General Provisions section GP-2.06 – Preparation of Bid.

Question: Do we have to attach all pages of issued addendums to the front cover of Volume IV when submitting, or only the signature page?

Response: Only the signature pages of the Addendum need to be attached to the cover. There are 4 addenda signature sheets including this Addenda.

Question: What is the intended height of the wire mesh partitions at Garage Bay Storage, Room 159, Sheet A1.2, and are they to have wire mesh ceilings?

Response: 12' high. The top is wire mesh see this addenda.

Question: The specifications at Section 10 22 13, 2.4.B.5 address 24" deep shelves. Are these relevant to this project and are these supposed to be wire mesh shelves?

Response: Yes the 24" deep shelving is required and it is to be wire mesh. See this addenda.

Very truly yours,

Linda D. McGill, CPPB
Chief Procurement Officer

THIS ADDENDUM MUST BE ATTACHED TO THE OUTSIDE COVER OF THE BID/PROPOSAL FORM. FAILURE TO DO SO MAY RESULT IN REJECTION OF YOUR BID.

THE ATTACHED RECEIPT MUST BE RETURNED TO THIS OFFICE. FAILURE TO RETURN THE RECEIPT MAY RESULT IN REJECTION OF YOUR BID.

SECTION 08 34 63 - DETENTION DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Swinging detention doors.

2. Detention frames.

B. Related Sections:

1. Division 04 Section "Unit Masonry" for inserting anchors into masonry construction.

2. Division 08 Section "Detention Door Hardware" for door hardware for detention doors.

3. Division 08 Section "Security Glazing" for glazing in detention doors and frames.

4. Division 09 painting Sections for field painting detention doors and frames.

1.3 DEFINITIONS

A. Minimum-Thickness Steel: Indicated as the specified minimum thicknesses for base metal without coatings, according to HMMA 803.

1.4 PERFORMANCE REQUIREMENTS

A. Detention Doors and Frame Assemblies: Provide detention doors and frames that comply with the following, based on testing manufacturer's standard units in assemblies similar to those indicated for this Project:

1. Security Grade: Comply with Grade 3, according to ASTM F 1450.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, label compliance, fire-resistance rating and finishes for each type of detention doors and frames specified.

1. All doors and frames are to be one hour rated assemblies.

B. Shop Drawings: In addition to requirements below, provide a schedule using same reference numbers for details and openings as those on Drawings:

1. Elevations of each door design.

2. Direction of swing

3. Inmate and non-inmate sides.

4. Details of doors, including vertical and horizontal edge details, and metal thicknesses.

5. Details of frames, including dimensioned profiles, and metal thicknesses.

6. Locations of reinforcement and preparations for hardware.

7. Details of anchorages, joints, field splices, and connections.

8. Details of moldings, removable stops, and glazing.

1.6 INFORMATIONAL SUBMITTALS

A. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for detention doors and frames. Indicate metal thickness of each component of tested assembly and describe construction methods.

B. Field quality-control reports documenting inspections of installed products.

1. Examination reports documenting inspection of substrates, areas, and conditions.

2. Anchor inspection reports documenting inspections of built-in and cast-in anchors.

3. Field quality-control certification signed by Contractor.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Source Limitations: Obtain detention doors and frames from single source from single manufacturer.

C. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at NFPA 252

D. Smoke-Control Detention Door Assemblies: Comply with NFPA 105.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver detention doors and frames palleted, wrapped, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

B. Deliver detention frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Inspect units, on delivery, for damage. Minor damage may be repaired provided refinished items match new work and are approved by Architect; otherwise, remove and replace damaged items as directed.

D. Store detention doors and frames under cover at building site. Place units in a vertical position with heads up, spaced by blocking, on minimum 4-inch- high wood blocking. Avoid using nonvented plastic or canvas shelters that could create a humidity chamber.

1.9 COORDINATION

A. Coordinate installation of anchorages for detention frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in masonry. Deliver such items to Project site in time for installation.

1.10 MAINTENANCE TOOLS

A. Tool Kit: Provide one sets of tools for use with security fasteners, each packaged in a compartmented kit configured for easy handling and storage.

B. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Security Fasteners: Furnish not less than 1 box for each 50 boxes or fraction thereof, of each type and size of security fastener installed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Ambico Limited.
2. Ceco Door Products; an ASSA ABLOY Group Company.
3. Custom Product Division; Chief Industries, Inc.
4. Fleming Door Products Ltd.; an ASSA ABLOY Group Company.
5. Habersham Metal Products Co.
6. Metal Products, Inc.
7. Pioneer Industries, Inc.
8. Sweeper Metal Fabricators Corp.
9. Trussbilt; an ASSA ABLOY Group Company.

2.2 MATERIALS

A. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, CS (Commercial Steel), Type B; free of scale, pitting, or surface defects; pickled and oiled.

B. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, CS (Commercial Steel), Type B.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, CS (Commercial Steel), Type B; with G60 zinc (galvanized) or A60 zinc-iron-alloy (galvannealed) coating designation.

D. Stainless-Steel Sheet: ASTM A 240/A 240M, austenitic stainless steel, Type 304.

E. Masonry Anchors: Fabricated from same steel sheet as door face.

F. Embedded Anchors: Fabricated from mild steel shapes and plates, hot-dip galvanized according to ASTM A 153/A 153M.

1. Corrosion Protection: Carbon-steel components zinc plated to comply with ASTM B 633, Class Fe/Zn 5 (0.005 mm) for Class SC 1 service condition (mild).

G. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

H. Glazing: Comply with Division 08 Section "Security Glazing."

I. Grout: Comply with ASTM C 476, with a slump of not more than 4 inches as measured according to ASTM C 143/C 143M.

J. Insulation: Slag-wool-fiber/rock-wool-fiber or glass-fiber blanket insulation. ASTM C 665, Type I (unfaced); with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics. Minimum 1.5-lb/cu. ft. density.

2.3 DETENTION DOORS

A. General: Provide flush-design detention doors of seamless hollow construction, 2 inches thick unless otherwise indicated. Construct detention doors with smooth, flush surfaces without visible joints or seams on exposed faces or stile edges.

1. For single-acting swinging detention doors, bevel both vertical edges 1/8 inch in 2 inches..

B. Core Construction: Provide the following core construction of same material as detention door face sheets, welded to both detention door faces:

1. Steel-Stiffened Core: 0.042-inch- thick, steel vertical stiffeners extending full-door height, with vertical webs spaced not more than 4 inches apart, spot welded to face sheets a maximum of 3 inches o.c. Fill spaces between stiffeners with insulation.

C. Vertical Edge Channels: 0.123-inch- thick, continuous channel of same material as detention door face sheets, extending full-door height at each vertical edge; welded to top and bottom channels to create a fully welded perimeter channel. Noncontiguous channel is permitted to accommodate lock-edge hardware only if lock reinforcement is welded to and made integral with channel.

D. Top and Bottom Channels: 0.123-inch- thick metal channel of same material as detention door face sheets, spot welded, not more than 4 inches o.c., to face sheets.

1. Reinforce top edge of detention door with 0.053-inch- thick closing channel, inverted and nesting in top channel; welded so channel web is flush with top door edges.

E. Hardware Reinforcement: Fabricate reinforcing plates from same material as detention door face sheets to comply with the following minimum thicknesses:

1. Full-Mortise Hinges and Pivots: 0.187 inch thick.

2. Maximum-Security Surface Hinges: 0.250 inch thick.

3. Strike Reinforcements: 0.187 inch thick.

4. Lock Fronts, Concealed Holders, and Surface-Mounted Closers: 0.093 inch thick.

5. All Other Surface-Mounted Hardware: 0.093 inch thick.

6. Lock Pockets: 0.123 inch thick at non-inmate side, welded to face sheet.

F. Interior Detention Door Face Sheets: Fabricated from cold-rolled steel sheets

1. Security Grade 3: 0.067-inch- minimum-thickness steel

2.4 DETENTION FRAMES

A. General: Provide fully welded detention frames with integral stops, of seamless construction without visible joints or seams. Fabricate detention frames with contact edges closed tight and corners mitered, reinforced, and continuously welded full depth and width of detention frame.

B. Provide two temporary steel spreaders spot welded to bottom of jambs to act as bracing during shipping and storage. Remove prior to installation.

C. Stop Height: Provide minimum stop height of 0.625 inchfor detention door openings and minimum stop height of 1-1/4 inches in security glazing. or detention panel openings unless otherwise indicated.

D. Interior Detention Frames: Fabricated from cold-rolled steel sheets.

1. Security Grade 3: 0.067-inch- minimum-thickness steel

E. Hardware Reinforcement: Fabricate reinforcing plates from same material as detention frame to comply with the following minimum thicknesses:

1. Hinges and Pivots: 0.187 inch thick by 1-1/2 inches wide by 10 inches long.

2. Strikes and Closers: 0.187 inch thick.

3. Surface-Mounted Hardware: 0.093 inch thick.

4. Lock Pockets: 0.123 inch thick at non-inmate side, welded to face sheet. Provide 0.123-inch- thick, lock protection plate for attachment to lock pocket with security fasteners.

F. Jamb Anchors: Weld jamb anchors to detention frames near hinges and directly opposite on strike jamb or as required to secure detention frames to adjacent construction.

1. Number of Anchors: Provide three anchors per jamb plus the following:

a. Detention Door Frames: One additional anchor for each 18 inches, or fraction thereof, above 54 inches in height.

2. Masonry Anchors: Adjustable, corrugated or perforated, strap-and-stirrup anchors to suit detention frame size; formed of same material and thickness as detention frame; with strap not less than 2 inches wide by 10 inches long.

G. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, formed of same material and thickness as detention frame, and as follows:

1. Monolithic Concrete Slabs: Clip anchors, with two holes to receive fasteners, welded to bottom of jambs and mullions with at least four spot welds per anchor.

H. Rubber Door Silencers: Drill stops in strike jambs to receive three silencers on single-detention-door frames. Keep holes clear during construction.

I. Grout Guards: Provide factory-installed grout guards of same material as detention frame, welded to detention frame at back of hardware cutouts, silencers, and glazing-stop screw preparations to close off interior of openings and prevent mortar or other materials from obstructing hardware operation or installation.

2.5 MOLDINGS AND STOPS

A. Provide fixed moldings on inmate side of glazed openings and removable stops on non-inmate side.

1. Height: As required to provide minimum 1-inch glass engagement, but not less than 1-1/4 inches.

2. Fixed Moldings: Formed from same material as detention door and frame face sheets, but not less than 0.093-inch- thick, spot welded to face sheets a maximum of 5 inches o.c.

3. Removable Stops: Formed from 0.123-inch- thick angle, of same material as detention door face sheets. Secure with button head security fasteners spaced uniformly not more than 9 inches o.c. and not more than 2 inches from each corner, and as necessary to satisfy performance requirements. Form corners with notched or mitered hairline joints.

B. Coordinate rabbet width between fixed and removable stops with type of glass or panel and type of installation indicated.

2.6 SECURITY FASTENERS

A. Security Fasteners: Operable only by tools produced for use on specific type of fastener by fastener manufacturer or other licensed fabricator.

1. Products: Subject to compliance with requirements available products that may be incorporated into the Work include, but are not limited to, the following]:

a. Holo-Krome; a Danaher Corporation.

b. Safety Socket Screw Corporation.

c. Tamper-Pruf Screws, Inc.

d. Textron Fastening Systems; Textron, Inc.

B. Drive-System Type, Head Style, Material, and Protective Coating: Provide as required for assembly, installation, and strength, and as follows:

1. Drive-System Types: Pinned Torx-Plus

2. Fastener Strength: Grade 8

3. Socket Button Head Fasteners:

a. Stainless steel, ASTM F 879, Group 1 CW.

4. Socket Flat Countersunk Head Fasteners:

a. Stainless steel, ASTM F 879, Group 1 CW.

5. Socket Head Cap Fasteners:

a. Stainless steel, ASTM F 837, Group 1 CW.

2.7 FABRICATION

A. Fabricate detention doors and frames rigid, neat in appearance, and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Weld exposed joints continuously; grind, fill, dress, and make smooth, flush, and invisible. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Tolerances: Fabricate detention doors and frames to comply with manufacturing tolerances indicated in HMMA 863.

C. Hardware Preparation: Factory prepare detention doors and frames to receive mortised hardware, including cutouts, reinforcement, mortising, drilling, and tapping, according to final door hardware schedule and templates provided by detention door hardware supplier.

D. Factory cut openings in detention doors.

E. Weld components to comply with referenced AWS standard. Weld before finishing components to greatest extent possible. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

2.8 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Finish detention doors and frames after assembly.

2.9 STEEL SHEET FINISHES

A. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning"; remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 3, "Power Tool Cleaning," or SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

B. Factory Priming for Field-Painted Finish: Apply shop primer specified below immediately after surface preparation and pretreatment. Apply a smooth coat of even consistency to provide a uniform dry film thickness of not less than 0.7 mils.

1. Shop Primer: Manufacturer's or fabricator's standard, fast-curing, corrosion-inhibiting, lead- and chromate-free, universal primer complying with ANSI A250.10 acceptance criteria; compatible with substrate and field-applied finish paint system indicated; and providing a sound foundation for field-applied topcoats despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of detention doors and frames.

B. Examine roughing-in for embedded and built-in anchors to verify actual locations of detention frame connections before detention frame installation.

C. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of detention doors and frames.

D. Inspect embedded plate installations before installing detention frames to verify that plate installations comply with requirements. Prepare inspection reports.

1. Remove and replace plates where inspections indicate noncompliance with specified requirements. Reinspect after repair or replacement.

2. Perform additional inspections to determine compliance of replaced or additional work. Prepare inspection reports.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory.

B. Prior to installation and with shipping spreaders removed, adjust detention frames for squareness, alignment, twist, and plumbness to the following tolerances:

1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb and perpendicular to frame head.

2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of face.

3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of door rabbet.

4. Plumbness: Plus or minus 1/16 inch, measured at jambs on a perpendicular line from head to floor.

3.3 INSTALLATION

A. General: Install detention doors and frames plumb, rigid, properly aligned, and securely fastened in place, complying with Drawings, schedules, and manufacturer's written recommendations.

B. Anchorage: Set detention frame anchorage devices according to details on Shop Drawings and per anchorage device manufacturer's written instructions.

1. Masonry Anchors: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.

C. Apply bituminous coating to backs of frames prior to filling with grout.

D. Placing Detention Frames: Install detention frames of sizes and profiles indicated. Set detention frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.

1. At fire-rated openings, install detention frames according to NFPA 80.

2. Install detention frames with removable stops located on non-inmate side of opening.

E. Grout: Fully grout detention frame jambs and heads. Completely fill space between frames and adjacent substrates. Hand trowel grout and take other precautions, including bracing detention frames, to ensure that frames are not deformed or damaged by grout forces.

F. Swinging Detention Doors: Fit non-fire-rated detention doors accurately in their frames, with the following clearances:

1. Between Doors and Frames at Jambs and Head: 1/8 inch.

2. Between Edges of Pairs of Doors: 1/8 inch.

3. At Door Sills without Threshold: 3/4 inch.

4. Between Door Bottom and Nominal Surface of Floor Covering: 1/2 inch.

G. Fire-Rated Detention Doors: Install with clearances as specified in NFPA 80.

H. Glazing: Comply with installation requirements in Division 08 Section "Security Glazing" unless otherwise indicated.

3.4 FIELD QUALITY CONTROL

A. Inspect installed products to verify compliance with requirements. Prepare inspection reports and indicate compliance with and deviations from the Contract Documents.

B. Remove and replace detention work where inspections indicate that work does not comply with specified requirements.

C. Perform additional inspections to determine compliance of replaced or additional work. Prepare inspection reports.

D. Prepare field quality-control certification that states installed products and their installation comply with requirements in the Contract Documents.

3.5 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including detention doors and frames that are warped, bowed, or otherwise unacceptable.

B. Clean grout and other bonding material off detention doors and frames immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.

1. After finishing smooth field welds, apply air-drying primer.

D. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

E. Stainless-Steel Surfaces: Clean surfaces according to manufacturer's written instructions.

PART 4 – MEASUREMENT

4.1 METHOD OF MEASUREMENT

A. No separate measurement will be made for work under this section.

PART 5 – PAYMENT

5.1 BASIS OF PAYMENT

A. These items will be paid for at the Contract Lump Sum Price bid for each respective item as described herein and shown below. This price shall be full compensation for all work contained in the bid item as described herein and required by the related Sections. Costs include all labor, materials, services, and equipment necessary to complete the Work in every respect.

B. Payment will be made under:

Item 011010-01 Eastern Facility Operations Building--per lump sum

END OF SECTION 08 34 63

SECTION 12 93 00 - SITE FURNISHINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Bicycle racks.

B. Related Requirements:

1. Division 03 Section "Cast-in-Place Concrete" for installing pipe sleeves and/or anchor bolts cast in concrete footings.
2. Division 31 Section "Earth Moving" for excavation for installing concrete footings.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. LEED Submittals:

1. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating cost for each product having recycled content.

C. Samples: For each exposed product and for each color and texture specified.

D. Samples for Initial Selection: For units with factory-applied finishes.

E. Samples for Verification: For each type of exposed finish, not less than 6-inch- long linear components and 4-inch- square sheet components.

F. Product Schedule: Provide rack(s) to house a minimum of five (5) bicycles. Location to be determined by architect.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For site furnishings to include in maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Anchors: Bicycle Rack anchoring hardware, provide 10% extra based on total quantity required for installation per manufacturer's installation instructions.

PART 2 - PRODUCTS

2.1 BICYCLE RACKS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Madrax; Heavy Duty Challenger H36-5-IG-G, or comparable product by one of the following:

1. GameTime; a PlayCore, Inc. company.
2. Kay Park Recreation.
3. SportsPlay Equipment, Inc.

B. Bicycle Rack Construction:

1. Frame: Steel with recycled content.

a. Tubing OD: Not less than 2-3/8 inches.

2. Style: Double-side parking.

a. Overall Height: 36 inches.
b. Overall Width: 40 inches.
c. Capacity: Designed to accommodate no fewer than five bicycles.

3. Security: Designed to lock wheel and frame.
4. Accessories: Base covers for each pipe and tubing anchored end.
5. Installation Method: Cast in concrete.

C. Steel Finish: Galvanized.

2.2 FABRICATION

A. Metal Components: Form to required shapes and sizes with true, consistent curves, lines, and angles. Separate metals from dissimilar materials to prevent electrolytic action.

B. Welded Connections: Weld connections continuously. Weld solid members with full-length, full-penetration welds and hollow members with full-circumference welds. At exposed connections, finish surfaces smooth and blended so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.

C. Pipes and Tubes: Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.

D. Preservative-Treated Wood Components: Complete fabrication of treated items before treatment if possible. If cut after treatment, apply field treatment complying with AWPA M4 to cut surfaces.

E. Exposed Surfaces: Polished, sanded, or otherwise finished; all surfaces smooth, free of burrs, barbs, splinters, and sharpness; all edges and ends rolled, rounded, or capped.

F. Factory Assembly: Assemble components in the factory to greatest extent possible to minimize field assembly. Clearly mark units for assembly in the field.

2.3 GENERAL FINISH REQUIREMENTS

A. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.4 STEEL AND GALVANIZED-STEEL FINISHES

A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.

B. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed.

C. Install site furnishings level, plumb, true, and securely anchored at locations to be determined by the Architect.

D. Post Setting: Set cast-in support posts in concrete footing with smooth top, shaped to shed water. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at correct angle and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.

E. Posts Set into Voids in Concrete: Form or core-drill holes for installing posts in concrete to depth recommended in writing by manufacturer of site furnishings and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.

F. Pipe Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout or anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.

END OF SECTION 12 93 00

SECTION 33 07 00 – FUEL STORAGE AND DISPENSING EQUIPMENT

PART 1 - DESCRIPTION

This and the two Sections following this Section specify the fuel storage and dispensing equipment. There are two options provided for the provision and installation the equipment following this Section:

Section 330701 for Concrete Vault Alternate and,
Section 330702 for Steel Tank Alternate.

The Contractor shall choose either Section 330701 or Section 330702 for this contract. The alternate chosen shall apply to all fuel storage and dispensing equipment under this contract.

PART 2 – NOT USED

PART 3 – NOT USED

PART 4 – MEASUREMENT

4.1 METHOD OF MEASUREMENT

A. No separate measurement will be made for work under this section.

PART 5 – PAYMENT

5.1 BASIS OF PAYMENT

A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the respective Lump Sum Bid under:

Item 011010-02 Eastern Facility Fuel Island--per lump sum

B. Costs include fuel tanks and accessories, stairs, pumps, dispensers, fuel management system, miscellaneous fuel specialties, concrete fuel service island, and all labor, materials, services, testing and equipment necessary to complete the Work in every respect. Contractor shall base these on the alternate fuel systems they have selected to base this bid: 330701 or 330702.

END OF SECTION 33 07 00

SECTION 33 07 01 – FUEL STORAGE AND DISPENSING EQUIPMENT – CONCRETE VAULT ALTERNATE

PART 1 - DESCRIPTION

A. SUMMARY

1. This Section specifies the concrete vault alternate for fuel dispensing equipment and is defined to include, but not necessarily be limited to:

    a. Provide a complete fuel dispensing equipment system at location indicated on the Contract Drawings;
    b. Acceptance testing;
    c. Training of the Maryland Transportation Authority (Authority) personnel; and
    d. Maintenance of the system during the warranty period.

2. Provide concrete vaulted aboveground tank system approved for listing under U.L. Standard 2085, Aboveground Tanks, Protected Type, Secondary Containment with Vehicle Impact and Projectile Resistance. Unit must comply with all provisions of U.F.C. 79-7, Appendix A-II-F. The tank and its enclosure shall be a completed unit at the factory (shop fabricated). The tank system shall be approved for Phase I and Phase II Vapor Recovery by the California Air Resource Board for gasoline and methanol.
3. The work consists of providing one (1) 4,000 gallon steel, concrete encased aboveground storage tank (AST) fueling system split internally to two (2) compartments- 2,000 and 2,000 gallons- with factory-installed equipment and appurtenances as specified herein and as shown on the Contract Drawings. The tank system shall be manufactured and assembled by a single manufacturer. This item shall include all labor, equipment, materials, transport, mounting slab, hose fittings, and all other incidentals for providing in-place operational fuel dispensers as specified herein and as shown on the Contract Documents.
4. The work consists of providing one (1) 6,000 gallon steel, concrete encased AST fueling system with factory-installed equipment and appurtenances as specified herein and as shown on the Contract Drawings. The tank system shall be manufactured and assembled by a single manufacturer. This item shall include all labor, equipment, materials, transport, mounting slab, hose fittings, and all other incidentals for providing an in-place operational fuel dispenser as specified herein and as shown on the Contract Documents.
5. The work consists of providing four (4) submersible pumps in the new 4,000 gallon AST, two (2) submersible pumps in the proposed 6,000 gallon AST, and six (6 dispensers as follows: diesel fuel (two - 2), unleaded gasoline (two – 2) and E-85 (two – 2). This item shall include all labor, equipment, materials, transport, mounting slab, hose fittings, sumps, liquid sensors, and all other incidentals for providing in-place operational fuel dispensers as specified herein and as shown on the Contract Documents.

6. Provide where shown on the Contract Drawings all equipment, as specified, complete and ready for safe operation. Each item shall be specifically designed for the intended function. Provide necessary accessories, items of equipment, mechanical, electrical, and structural items, whether specified or not in order to provide properly installed and functional equipment.
7. Equipment shall be suitable for installation in the space indicated on the Contract Drawings. Any modification or redesign to the existing structure or utilities required in connection with of an alternate equipment selection by the Contractor shall be provided by the Contractor at no additional cost to the Authority and shall be as approved by the Engineer.
8. The MdTA will provide fuel for the new tanks at no cost to the Contactor. Coordinate delivery of unleaded gasoline, E85 and diesel fuel with Owner.
9. Fuel management system including four (4) card readers to control and provide accurate accounting of fuel dispensed.
10. Miscellaneous fuel specialties and accessories including fuel depot safety signs, fire extinguisher, wash bucket and paper towel holder, steel drum trash can and spill containment kit.

B. References

1. American National Standards Institute (ANSI)
   a. ANSI/ASME A13.1 Scheme for the Identification of Piping Systems.
   b. ANSI/ASME B1.20.1 Pipe Threads, General Purpose (inch).
   c. ANSI/ASME B16.10 Face-to-Face and End-to-End Dimensions of Valves.
2. American Petroleum Institute (API)
   a. API RP 1637 using to API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Gasoline Dispensing Facilities and Distribution Terminals.
   b. Product Identification at Gasoline Dispensing Facilities and Distribution Terminals.
3. American Society for Testing and Materials (ASTM)
   a. *ASTM* A36 Standard Specification for Carbon Structural Steel.
   b. ASTM A48 Standard Specification for Gray Iron Castings.
   c. ASTMA53 Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc Coated Welded and Seamless.
   d. ASTM A1011 Standard Specification for Steel, Sheet and Strip, Hot Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.
   e. ASTM B209 Standard specification for aluminum and aluminum-alloy sheet and plate.
   f. ASTM C335 Steady State Heat Transfer Properties of Horizontal Pipe Insulation.
   g. ASTM C547 Standard Specification for Mineral Fiber Pipe Insulation.

h. ASTM C332 Standard Specification for Lightweight Aggregates for Insulating Concrete.
i. ASTM C495 Standard Test Method for Compressive Strength of Lightweight Insulating Concrete.

4. American Welding Society (AWS)
   a. AWS D1.1 Code for Structural Welding – Steel.
   b. AWS D10.12M/D10.12 Guide for Welding Mild Steel Pipe.

5. ASME International (ASME)
   a. ASME B31.9 Specification for Building Services Piping.

6. Code of Maryland Regulations (COMAR)
   a. COMAR 26:10 Oil Pollution and Tank Monitoring.
   b. COMAR 26:11 Air Management.

7. Maryland Department of Transportation State Highway Administration (MDSHA)
   a. Standard Specifications for Construction and Materials, issued July 2008, with latest revisions apply to work included in this Section.

8. Manufacturers Standardization Society (MSS)
   a. MSS SP-69-2003 Pipe Hangers and Supports - Selection and Application.

9. National Fire Protection Association (NFPA)
   a. NFPA 30 Flammable and Combustible Liquids Code.
   b. NFPA 30A Motor Fuel Dispensing and Repair Garages.
   c. NFPA 31 Standard for the Installation of Oil-Burning Equipment.
   d. NFPA 70 National Electrical Code.
   e. NFPA 704 Standard System for the Identification of Hazards of Materials for Emergency Response.
   f. NFPA 780 Standard for the Installation of Lightning Protection Systems.

10. National Institute of Standards and Technology.
    a. Handbook 44-2007 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices.

11. OSHA: Occupation Safety and Health Act. 29 CFR 1956.

12. Petroleum Equipment Institute (PEI)
    a. PEI/RP200-03 Recommended Practice for Installation of Aboveground Storage Systems for Motor Vehicle Fueling.
    b. PEI/RP100-2000 Recommended Practice for Installation of Underground Liquid Storage Systems.

13. UFC: Uniform Fire Code, 2000 Edition.

14. Underwriters Laboratories, Inc. (UL)
    a. UL-79 Power Operated Pumps for Petroleum Dispensing Products.
    b. UL-87 Standard for Power-Operated Dispensing Devices for Petroleum Products.

c. UL-142 Steel Aboveground Tanks for Flammable and Combustible Liquids.
d. UL 353 Limit Controls.
e. UL-467 Grounding and Bonding Equipment.
f. UL-536 Standard for Flexible Metallic Hose.
g. UL-842 Valves for Flammable Fluids.
h. UL-568C Power Conversion Equipment.
i. UL-971 Nonmetallic Underground Piping for Flammable Liquids.
j. UL-2085 Protected Aboveground Tanks for Flammable and Combustible Liquids, Protected Type.
k. UL-2244 Aboveground Flammable Liquid Tank Systems.

15. California Air Resources Board – CP-206, Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks, May 2008

16. Applicable federal, state, and local codes and regulations.

C. QUALITY ASSURANCE

1. Work shall conform to federal, state, and local governing rules and regulations and ordinances, including OSHA and NFPA requirements, and shall pass inspection by the authorities having jurisdiction.

2. Work shall conform to current versions of locally adopted codes.

3. System Responsibility: Vested responsibility for designing, coordinating, and furnishing the system specified herein, and for initial operation is that of the tank manufacturer or if qualified, factory authorized representative, herein referred to as the tank supplier.

D. SUBMITTALS

1. Submit shop drawings, catalog cuts, and manufacturer's data covering all equipment covered in this section. Submit the following for review and approval:
   a. *Shop drawings.*
   b. *Product data:* For each type of product indicated, include construction details, material descriptions, and dimensions of individual components and profiles. The intended use of each component that is listed should be included in the description portion of the submission. Also include, where applicable, rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
      1) *Piping specialties:* Include items such as bulkhead fittings, hose adaptors, swivel pipe adaptors, fill caps adaptor, drop tubes, tank vents, tank bottom protectors, etc.
      2) *Valves:* Include pressure rating, capacity, and electrical connection of selected model where applicable.
   c. *Design calculations.*
   d. *Installation instructions.*
   e. *Operations and maintenance manuals.*

f. Training program.
g. Manufacturer's Written Warranty

2. Submit pumping equipment manufacturer's certification that the equipment supplied meets or exceeds the requirements of the Contract Documents.

E. JOB CONDITIONS

1. The Contractor's equipment and proposed materials shall be at least of the same level of quality as that indicated and specified.

2. Work includes furnishing and installing of ASTs, submersible turbine pumps, suction piping, sumps, dispensers, liquid sensors, level probes, interstitial sensors, shut-off valves, check valves, separator-lubricator assemblies, distribution piping and fittings, fuel hose reel assemblies including support framing, control handles, meters, pump systems, and all other work and material to provide an approved working installation as specified and as shown in the Contract Documents.

3. The various component parts shall function together as a workable fuel dispensing system, complete with everything necessary for its operation and with all equipment properly adjusted and in working order. Unless otherwise specified, any materials described, shown, reasonably implied, or obviously a part of the system and necessary to its complete finish and perfect operation shall be furnished and installed, without extra charge. The Contract Drawings and the Contract Specifications are intended to supplement each other, and any item set forth in either shall be recognized as the same as if fully set forth in both.

4. The Contractor shall be responsible for establishing all pipe sizes and materials, component locations, type and quantities, mounting requirements and hardware, equipment selection, and all other design parameters necessary to provide a complete operable fuel dispensing system as described in the Contract Documents.

5. Site Information: Subsurface conditions were investigated during the design of the project. Reports of these investigations are available for informational purposes only; data in reports are not intended as representations or warranties of accuracy continuity of conditions (between soil borings). The Authority assumes no responsibility of interpretations or conclusions drawn from this information.

F. DELIVERY, STORAGE AND HANDLING

1. Delivery, storage and handling of all fuel dispensing system components shall be in accordance with manufacturer's written instructions.

G. WARRANTY

1. The Contractor shall guarantee its work, material, and equipment and the other Contract performances, and shall remedy, without cost to the Authority, any defects which may develop therein during a period of one year from the date of the Authority's acceptance of the project. The Contractor shall, at its expense, repair or replace any component or equipment that has malfunctioned or has become defective as a result of improper installation. The Contractor's corrective actions shall ensure continuance of the manufacturer's warranty to include recertifying to the manufacturer's requirements.
2. Provide tank manufacturer's 30-year written warranty. This warranty shall cover all defective materials and workmanship of the steel and concrete vaulted tank system. This warranty shall also cover the interior and exterior material, encasement, and coatings from corrosion, cracking, flaking, spalling, discoloration, or deterioration.
3. Provide dispenser manufacturer's 2-year warranty.

PART 2 - MATERIALS

A. ABOVEGROUND STORAGE TANKS

1. Provide one (1) 6,000 gallon concrete encased AST, and one (1) 4,000 gallon concrete encased, two-compartment AST as indicated on the Contract Drawings and specified herein.
2. *Primary Tank:* The primary tank shall be rectangular in shape, constructed with a minimum of 10 gage thick carbon steel, listed in accordance with UL-2085. The 2-hour fire rating shall exceed all requirements of NFPA 30 and 30A for "fire resistant" tanks and meet the requirements of UFC Articles 52 and 79, Appendix II-F and Appendix Standard A-II-F-1 for "protected" aboveground tanks. The tanks shall comply with PIE/RP200-03.
3. *Concrete Encasement:* The concrete encasement shall be 6" thick with a minimum design strength of 4000 psi. Concrete enclosure shall encase and protect both the primary steel tank and the secondary containment. The concrete design shall include the following for long-term durability: less than 3% air entrainment, water-reducing admixture, and steel reinforcing bars. Concrete placement shall be monolithic (without seams) and placement methods shall ensure the absence of voids on all sides and beneath the steel tank. An exterior steel jacket covering the concrete vault will NOT be permitted. The steel tank shall be prestressed at factory by pressurizing the primary steel tank to 5 psi during concrete encasement to allow for expansion and contraction of the primary steel tank. Vault enclosure shall have concrete support legs of unitized monolithic construction raising the concrete enclosure a minimum of 3" above the ground to meet visual inspection requirements. A mid-level seam or other joint construction which could compromise the liquid tightness (secondary containment) and fire protection capability of the vault is not permitted.

4. *Fire Resistance:* The tank system shall be designed and tested to provide 2 hour fire protection for the primary tank as per U.L. 2085 2-hour furnace fire test and 2 hour simulated pool fire test. No steel members shall penetrate the walls or floor of the concrete encasement to assure isolation from pool fire heat.

5. *Thermal and Corrosion Protection:* The tank construction shall include thermal insulation equivalent to .25 inches of polystyrene to protect against temperature extremes, and to protect against corrosion by isolating the steel tank from the concrete or other corrosive material. All steel exterior to the concrete encasement shall be anti-oxidant powder coated to inhibit corrosion and meet A.S.T.M. B117.

6. *Secondary Containment with Leak Monitoring:* The tank system shall include an impervious barrier of 30 mil high-density polyethylene to contain leaks from the primary tank. A monitoring tube shall be located between the inner tank and secondary barrier.

7. *Fill Systems*: Two (2) tank fill systems shall be provided on the 4,000 gallon, two-compartment unleaded gasoline and E-85 tank and one on the 6,000 gallon diesel tank. Each system shall be side-mounted on the tank at locations as shown on the Contract Drawings. The fill connections shall be accessible from ground height without the need for stairs or ladders. To fill the tanks, however, stairs will be required as shown and detailed on the Contract Drawings. The system shall be suitable for use with low pressure hose delivery and have suitable fixtures and valves to prevent spillage.

8. *Spill/Overfill Containment:* The tank system shall include a U.L. listed 7-gallon spill/overfill container manufactured as an integral part of the primary tank, surrounding the fill pipe, and protected by 2 hour fire rating of the enclosure. The spill/overfill container shall include a stick port and normally closed valve to release spilled product into the main tank. Exterior steel shall be anti-oxidant powder coated to inhibit rust.

9. *Overfill Protection:* Overfill protection shall be provided by the following methods: a) direct reading level gauge visible from fill pipe access; b) valve rated for pressurized delivery located within fill pipe to close automatically at 95% full level; c) high level alarm.

10. *Exterior Finish:* The tank system shall be a low maintenance exposed aggregate or architectural (STO, Permacrete, Thorocoat) exterior concrete finish. Fiber clad steel, or painted steel vault tanks are not acceptable.

11. *Signage:* Tanks shall be marked on all sides as per state and local codes. Signs will be recessed in concrete exterior to insure against damage during off-loading, refilling or general functions.

12. *Venting:* Tank system shall include a 2" atmospheric vent and emergency venting in accordance with N.F.P.A. 30.

13. The fueling system shall be designed to meet or exceed the minimum requirements of NFPA Sections 30 and 30A, the UFC, and the NEC.

14. Tank dimensions:

a. 4,000 Gallon Tank Design Criteria:
   1. Tank storage volume: 4,000 gallons
   2. Maximum tank dimensions: 8'-0-1/2" wide by 6'-5-3/4" high by 17'-7-1/2" long.
   3. Approximate weight of empty tank: 48,000 pounds.
   4. The tank shall be split internally to provide storage for 2,000 gallons of diesel fuel and 2,000 gallons of unleaded gasoline. An air gap shall separate the two storage compartments.
   5. Tank shall include 4 dispensers and 2 card readers (1 for E-85 and 1 for gasoline) mounted where shown on the plans.

b. 6,000 Gallon Tank Design Criteria:
   1. Tank storage volume: 6,000 gallons
   2. Maximum tank dimensions: 8'-0-1/2" wide by 8'-9-3/4" high by 17'-7-1/2" long.
   3. Approximate weight of empty tank: 60,000 pounds.
   4. Tank shall be designed to store 6,000 gallons of diesel fuel.
   5. Tank shall include 2 dispensers and two card readers.

B. SUBMERSIBLE TURBINE FUEL PUMPS

1. Pumps:

a. Description: Provide a total of four (4) UL-listed ¾ hp submersible turbine pumps for the gasoline and E-85 tank (one pump for each dispenser) and two (2) submersible turbine pumps for the diesel tank.
b. The entire pumping assemblies shall have UL listing and shall meet all requirements of UL-79. The entire pumping assembly for the E-85 fuel shall have UL listing for use with E-85 fuel.
c. Pumps shall be multi-stage, self-lubricating, and easily removed from tank without disconnecting discharge piping, mechanical or electronic leak detectors, or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.
d. Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.
e. The motor assembly height shall be field adjustable utilizing a UL-listed telescoping shaft and set to a minimum of five (5) inches from the bottom of the tank.
f. Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water leakage into the storage tank. The discharge outlet shall be a standard 2-inch NPT opening. The manifold shall have a built-in air purge screw, line check valve, and pressure relief valve, and shall support dual vacuum sensor siphon systems.

g. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.
h. The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed.
i. The pumps shall include an integral check valve and line leak detector to hold operating pressure at 30 psi to minimize loss of pressure due to thermal contraction. The line leak detector shall restrict fuel flow if line pressure is lost or line product loss exceeds 3.0 gph The check valve shall incorporate a feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank to prevent service spills. The check valve shall provide pressure relief of the product line. The check valve seat shall be constructed of bronze. Contractor shall provide a 3-second on-delay relay for each dispenser solenoid valve to minimize line leak checking intervals.
j. The vacuum sensor siphon system shall be capable of drawing 25 inches of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a one-piece rubber check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing.
k. The pump discharge head and manifold assembly shall be manufactured from ASTM A48 Class 30 gray cast iron.
l. The pumping unit shall not incorporate any flexible diaphragms and all sealing shall be accomplished with rings constructed of fluorocarbon or UL-recognized fiber gaskets.
m. The pump motors shall be 208/230-volt, 60-Hertz, single-phase, 3,450 RPM, permanent split capacitor type continuous duty, rated explosion proof in a Class I, Group D environment as defined in NFPA 70. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.
n. The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.
o. The pump motor assembly shall be clearly marked with pertinent information including horsepower, voltage, phase, and manufacturer.
p. The pump motor shell and rotor shaft shall be constructed of stainless steel Type 304 (outer) and Type 301 (stator), and motor bearings shall be constructed of carbon.
q. All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.

r. All piping and valves shall comply with NFPA 30 and 30A.

b. Design Criteria:
a. Capacity: ¾ hp 65 gpm at 28psi

c. *Controls:* Provide a pump control box for each submersible pump. The pump control box (Red Jacket Model 880-041-9) shall provide inductive motor switching as well as pump permissive for the dispenser, CFN PCU, and the ATG. Pump control panel shall comply with UL-353 and UL-508C.

d. Acceptable manufacturers:
a. E-85 Fuel: Franklin Fueling Systems, Red Jacket Pumps Division of Veeder-Root Company;
b. Unleaded and Diesel Fuel: Franklin Fueling Systems, Red Jacket Pumps Division of Veeder-Root Company.
c. Or approved equal.

C. DISPENSERS

Provide eight (8) UL-listed dispensers to deliver E-85 fuel, unleaded gasoline, and diesel fuel with the following features and capabilities:

1. *Maufacturer:* Pump dispensers shall be the Reliance S1 by Dresser-Wayne or equal.

2. *Compatibility:* For dispensing low viscosity petroleum fuels - diesel, including biodiesel blends up to 20%; E85, and gasoline, including standard oxygenated blends.

3. *Performance:* Up to 22 GPM.

4. *Register:* Non-computer mechanical register with power reset with interlock. Up to 999.9 gallons per delivery. Non–resettable accumulative totalizer up to 9999999.9.

5. *Meter:* Micro-accurate 2-piston positive displacement design. Weights & Measures sealable.

6. *Solenoid Valve:* 1" two-stage valve.

7. *Electrical:* 115VAC, 60 Hz.

8. *Inlet Connection:* 1½" NPT. Bottom access hole sized for 1½" emergency valve installation.

9. *Discharge:* 1" with ¾" reducing bushing.

10. *Mounting:* Tank or shelf-mount.

11. *Cabinet Construction:* All panels shall be fabricated from galvannealed steel for corrosion resistance. Front door shall be lockable and removable for service. Sides and top shall be removable for additional service access.

12. *Cabinet Finish:* Durable all weather powder-coated finish.

13. *Nozzle Boot and Hook:* Fits standard U.L. interchangeable nozzles and Dresser Wayne short spout vapor recovery nozzles. Lift-to-start nozzle hook. Fleet Fueling Group

14. *Hose Hanger:* Keeps hose off ground when not in use.

15. *Actual Dimensions:* Approximately 16"W x 14"D x 29"H

16. *Pressure:* Working pressure up to 50 psi.

17. *Pulsers:* Convert register revolutions to electrical pulses for connection to fuel management systems. 10:1 and 100:1 ratio options.

18. *Hose Mast Kit:* Compatible with equipment selected.

19. *External Filter:* Installed on discharge.

20. *Signage:* Each dispenser shall be clearly labeled: Unleaded Gasoline, Diesel, or E-85.

D. FUEL DISPENSING PIPING AND FITTINGS

1. Provide fuel piping as shown on the Contract Drawings and as specified in this Section.

2. All aboveground piping shall be black carbon steel schedule 40 in accordance ASTM A53, Type S, Class B, in the nominal size indicated in the Contract Documents. Hangers, supports and accessories used shall be applied in accordance with the manufacturer's recommendation for type of service and application and in accordance with MSS SP-69-2003. All hangers, supports, and accessories shall be hot-dip galvanized.

3. Plastic to Steel Pipe Transition Fittings: Factory-fabricated fittings with plastic end matching or compatible with carrier piping, and steel pipe end complying with ASTM A53, black steel, Schedule 40, Type E or S, Grade B.

4. Flexible entry termination boots shall be provided where ducting terminates at secondary containments and sumps. All termination boots shall be air testable to confirm leak tight integrity over the life of this component.

   a. Acceptable manufacturers:
      1) APT Division of Franklin Fueling Systems;
      2) Or approved equal.

5. Clamshell Secondary Test Boots shall be provided wherever non-ferrous piping penetrates a sump or other secondary containment to permit testing of the interstitial space between the primary and secondary layers of the double-walled pipe.

   a. Acceptable manufacturers:
      1) APT Division of Franklin Fueling Systems;
      2) Or approved equal.

6. Joining Materials:

   a. Joint compound and Teflon tape suitable for fuel.
   b. Acceptable manufacturers:
      1) Loctite 567 manufactured by Henkel Technologies;
      2) Or approved equal.

E. PIPE SUPPORTS

1. Hangers, supports and accessories used shall be provided in accordance with the manufacturer's recommendation for type of service and application. All hangers, supports, and accessories shall be hot-dip galvanized.

F. EMERGENCY SPILL KIT

The Contractor shall provide one emergency spill kit as specified in this Section.

1. *Contents:*

   50 - Absorbent Pads
   12 - Absorbent Socks (3"x48")
   2 - Absorbent Pillows
   1 - Pair Goggles
   1 - Pair Nitrile Gloves
   3 - Disposal bags

2. *Container:*

   Drum size - 21.125"x28.5" 30 gallon Yellow polyethylene container with screw-on lid with gasket, weatherproof, UV inhibitors and is chemical resistant to most materials.
   Absorbs 25 Gallons

3. *Manufacturer/ Supplier:*

   AbsorbentsOnline.com
   PCI Products Company
   4195 Chino Hills Pkwy., #360
   Chino Hills, CA 91709

G. AUTOMATIC TANK GAUGING AND LEAK DETECTION SYSTEM

1. *Manufacturer:* OMNTEC Manufacturing, Inc., 1993 Pond Road, Ronkonkoma, NY 11779.

2. Model OEL8000II.

3. *Function:* Monitors product levels, water levels, temperatures, and leaks for up to 8 tanks.

4. *Features:* 4 RS-232 ports, 1 RS-485 port, FAX/modem compatible, 4-line by 40 character backlit LCD display, accepts up to 6 interface boards, battery backup, CITLD upgradable, UL-listed.

5. *Specifications:* 36-character thermal printer, 100-240 VAC, 50/60 Hz, 50 watts. 14,400 baud modem, audible alarm, 20 key oil resistant tactile key pad, 3 LEDS (OK, Fault, alarm), shielded BX series 22 AWG sensor cable with drain wire, MTG probes, OMNTEC EC-2 shielded Belden #8791 low inductance (< 0.2 microhenries per foot).

6. *Sensors:* OMNTEC, Bright Eye (BX-Series), 4 wire buss, network compatible.

H. FUEL MANAGEMENT SYSTEM

Description: The purpose of the system is to control and provide accurate accounting of all fuel and related products being dispensed. The system, in recording each transaction shall identify the driver, the vehicle, the day and time of the transaction, and the type and amount of fuel dispensed. Access to products shall be restricted to persons holding valid cards and who perform a predetermined series of data entry operations. The system provided shall be compatible with existing Authority fuel management system currently in use at other sites and shall be capable of processing dual hose use simultaneously from the same dispenser. The fuel management system shall be compatible with the existing Authority system and coordinated through Commercial Fuel Systems. (301-829-0875) The current system is a Gasboy model CFN-1.

System Equipment: The system shall be comprised of the following components:

1. *The Card Readers:* The four (4) card readers shall be the only piece of equipment in the system to which users shall have access. It shall provide clear and concise prompting to the user.
2. *The Micro-Computer:* The major control component for the system shall be a microprocessor based unit to be designed and constructed with state-of-the-art technology.

3. *The Control Cabinet:* The control cabinet shall be keyed accessed and located adjacent to the micro-computer cabinet. This cabinet shall house the relays through which electrical power to the pumping devices is controlled.

4. *Data Terminal:* The data terminal shall be the device through which on-site communication with and control of the system shall be affected. The data terminal shall be located inside the building and will allow authorized personnel to activate the terminal through the use of a security key.
5. *Printer:* The printer shall be located adjacent to the data terminal which:
    i. Shall operate as an on-line device to record transaction data in real time as each fuel transaction is completed.
    ii. Shall operate in conjunction with the data terminal as a self-prompting device for on-site data entry and display.
6. *Transaction Recorder:* A transaction recording device shall be located adjacent to the data terminal and printer which:
    i. Shall record all transaction data in non-volatile solid state memory such that in the event of power failure no data will be lost.
    ii. Shall indicate through a series of LED displays its status and operation mode for diagnostic purposes.

PART 3 - EXECUTION

A. INSTALLATION

1. Manufacturer will have a minimum of 5 years experience in producing specified tank for commercial use and document at least 10 installations in satisfactory operation.

2. The tank system including accessories shall be installed in strict accordance with the manufacturer's recommendations and applicable fire and environmental codes. All state and local permits shall be obtained by contractor prior to installation.

3. Tanks shall be installed on a reinforced concrete base slab designed to support the fully loaded tank. Protective bollards shall be installed where required by state and local codes.

4. Tanks shall be marked on all sides with warning signs: "FLAMMABLE" or "COMBUSTIBLE", "NO SMOKING", product identification, a NFPA rating label, and other signs as required by applicable codes.

5. Electrical work shall be in accordance with applicable codes and shall be rated for hazardous area as required. Electric feed for dispensing pumps shall include an emergency shutoff switch located per code requirements. Tanks shall be electrically grounded in accordance with N.F.P.A. 78.

6. The system installation shall be inspected and approved by the system supplier or its certified contractor. The system supplier shall submit a comprehensive checklist of

quality and safety items critical to the system and verify that the installation has been in accordance with these standards and applicable fire and environmental codes.

B. EQUIPMENT TEST AND CHECK-OUT

1. The equipment shall be tested in the presence of the Authority's Representative to his/her satisfaction and demonstrated to be correctly connected and installed. Submit a testing schedule to the Authority for approval prior to the start of the equipment test and check-out.

2. Testing and check-out procedures of the manufacturer shall be carried out completely.

3. Equipment tests shall not only be performed to demonstrate that the equipment has been properly installed and connected and operates properly, but also to demonstrate that the equipment performs the work for which it is intended.

4. Tested equipment found to be defective or inoperable to any extent shall be reported to the Authority immediately.

5. Any operating difficulty or defective item shall be repaired or replaced and put into proper operation by the Contractor immediately, at no additional expense to the Authority.

6. Contractor shall protect equipment and surrounding areas from damage resulting from testing operations, and shall clean-up any spills or leakage resulting from testing.

7. Contractor shall bear all expenses of all tests, including the furnishing of all necessary instruments, lubricants, hydraulic fluid, supplies, data recorders, and operation personnel. Provide and bear all expenses for fuel/power required to operate the equipment during the tests.

8. Perform testing of the equipment and system in accordance with the requirements specified in Contract Documents. Perform and document all testing procedures recommended by the manufacturer. Include the following tests:

   a. Test system performance by measuring quantity of product dispensed over time at each designated "TEST" fluid and semi-solid control handle. Minimum measured output over time shall meet of exceed the "Minimum Delivery Rate" for the corresponding fluid as specified. Tests shall be performed three (3) times within a span of five (5) minutes at each control handle.
   b. Test meter at each metering control handle by measuring volume of product dispensed. Measured volume of product dispensed shall correspond with volume of product indicated on meeting control handle within +/-0.65 percent of full dial range.
   c. Test each hose reel for proper extension and retraction.

9. At the sole discretion of the Engineer, the Contractor may be required by repeat any tests, at no cost to the Authority.

10. Contractor shall perform the following tests to demonstrate fueling system features and compliance:
    a. Piping Tightness: Air test at 50 psig for one hour, soap all joints;
    b. Tank Tightness: Per manufacturer's written instruction;
    c. Dispenser meter calibration shall be per NIST Handbook 44;
    d. Shear Valve: Contractor shall demonstrate no flow when tripped;
    e. Liquid level gauges: Gauges shall be calibrated per manufacturer's directions and shall be compared with manual gauges;
    f. Interstitial Sensor: Contractor shall simulate leak and verify alarm response;
    g. Overfill Prevention Alarm: Contractor shall verify setting at 90 percent of tank capacity;
    h. Grounding Continuity: From tank ground rod to dispenser nozzle;
    i. Emergency Stop Switch: Contractor shall activate and verify all circuits are disconnected from the source; and

C. INSPECTION AND TRAINING

1. The system installation shall be inspected and approved by the Engineer. The Engineer shall submit a comprehensive checklist of quality and safety items critical to the system and verify that the installation has been in accordance with these standards and applicable fire and environmental codes.

2. Contractor shall be responsible to repair any quality or safety items, as found by the Engineer, at no cost to the Authority.

3. Contractor shall be responsible to provide as a minimum two (2) 2-hour training sessions of complete system operation and maintenance. The Contractor shall coordinate the session dates with the Authority.

END OF SECTION 33 07 01

SECTION 33 07 02 – FUEL STORAGE AND DISPENSING EQUIPMENT – STEEL TANK ALTERNATE

PART 1 - DESCRIPTION

A. SUMMARY

1. This Section specifies the steel tank alternate for fuel dispensing equipment and is defined to include, but not necessarily be limited to:
   a. Provide a complete fuel dispensing equipment system at location indicated on the Contract Drawings;
   b. Acceptance testing;
   c. Training of the Maryland Transportation Authority (Authority) personnel; and
   d. Maintenance of the system during the warranty period.

2. Provide aboveground double walled steel tank system approved for listing under U.L. Standard 2085, Aboveground Tanks, Protected Type, Secondary Containment with Vehicle Impact and Projectile Resistance. Unit must comply with all provisions of U.F.C. Articles 52 and 79, Appendix II-F and Appendix A-II-F-1 for "protected" aboveground tanks. The tank and its enclosure shall be a completed unit at the factory (shop fabricated). The tank system shall be approved for Phase I and Phase II Vapor Recovery by the California Air Resource Board for gasoline and methanol.

3. The work consists of providing one (1) 4,000 gallon double walled – steel aboveground storage tank (AST) fueling system split internally to two (2) compartments- 2,000 and 2,000 gallons- with factory-installed equipment and appurtenances as specified herein and as shown on the Contract Drawings. The tank system shall be manufactured and assembled by a single manufacturer. This item shall include all labor, equipment, materials, transport, mounting slab, hose fittings, and all other incidentals for providing in-place operational fuel dispensers as specified herein and as shown on the Contract Documents.

4. The work consists of providing one (1) 6,000 gallon double walled steel AST fueling system with factory-installed equipment and appurtenances as specified herein and as shown on the Contract Drawings. The tank system shall be manufactured and assembled by a single manufacturer. This item shall include all labor, equipment, materials, transport, mounting slab, hose fittings, and all other incidentals for providing an in-place operational fuel dispenser as specified herein and as shown on the Contract Documents.

5. The work consists of providing four (4) submersible pumps in the new 4,000 gallon AST, two (2) submersible pumps in the proposed 6,000 gallon AST, and six (6) dispensers as follows: diesel fuel (two - 2), unleaded gasoline (two – 2) and E-85 (two – 2). This item shall include all labor, equipment, materials, transport, mounting slab, hose fittings,

sumps, liquid sensors, and all other incidentals for providing in-place operational fuel dispensers as specified herein and as shown on the Contract Documents.

6. Provide where shown on the Contract Drawings all equipment, as specified, complete and ready for safe operation. Each item shall be specifically designed for the intended function. Provide necessary accessories, items of equipment, mechanical, electrical, and structural items, whether specified or not in order to provide properly installed and functional equipment.

7. Equipment shall be suitable for installation in the space indicated on the Contract Drawings. Any modification or redesign to the existing structure or utilities required in connection with of an alternate equipment selection by the Contractor shall be provided by the Contractor at no additional cost to the Authority and shall be as approved by the Engineer.

8. The MdTA will provide fuel for the new tanks at no cost to the Contactor. Coordinate delivery of unleaded gasoline, E85 and diesel fuel with Owner.

9. Fuel management system including four (4) card readers to control and provide accurate accounting of fuel dispensed.

10. Miscellaneous fuel specialties and accessories including fuel depot safety signs, fire extinguisher, wash bucket and paper towel holder, steel drum trash can and spill containment kit.

B. References

1. American National Standards Institute (ANSI)
   a. ANSI/ASME A13.1 Scheme for the Identification of Piping Systems.
   b. ANSI/ASME B1.20.1 Pipe Threads, General Purpose (inch).
   c. ANSI/ASME B16.10 Face-to-Face and End-to-End Dimensions of Valves.

2. American Petroleum Institute (API)
   a. API RP 1637 using to API Color-Symbol System to Mark Equipment and Vehicles for Product Identification at Gasoline Dispensing Facilities and Distribution Terminals.

3. American Society for Testing and Materials (ASTM)
   a. *ASTM A36 Standard Specification for Carbon Structural Steel.*
   b. *ASTM A48 Standard Specification for Gray Iron Castings.*
   c. *ASTMA53 Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc Coated Welded and Seamless.*
   d. *ASTM A1011 Standard Specification for Steel, Sheet and Strip, Hot Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength.*
   e. *ASTM B209 Standard specification for aluminum and aluminum-alloy sheet and plate.*

f. ASTM C335 Steady State Heat Transfer Properties of Horizontal Pipe Insulation.
g. ASTM C547 Standard Specification for Mineral Fiber Pipe Insulation.
h. ASTM C332 Standard Specification for Lightweight Aggregates for Insulating Concrete.
i. ASTM C495 Standard Test Method for Compressive Strength of Lightweight Insulating Concrete.

4. American Welding Society (AWS)
   a. AWS D1.1 Code for Structural Welding – Steel.
   b. AWS D10.12M/D10.12 Guide for Welding Mild Steel Pipe.

5. ASME International (ASME)
   a. ASME B31.9 Specification for Building Services Piping.

6. Code of Maryland Regulations (COMAR)
   a. COMAR 26:10 Oil Pollution and Tank Monitoring.
   b. COMAR 26:11 Air Management.

7. Maryland Department of Transportation State Highway Administration (MDSHA)
   a. Standard Specifications for Construction and Materials, issued July 2008, with latest revisions apply to work included in this Section.

8. Manufacturers Standardization Society (MSS)
   a. MSS SP-69-2003 Pipe Hangers and Supports - Selection and Application.

9. National Fire Protection Association (NFPA)
   a. NFPA 30 Flammable and Combustible Liquids Code.
   b. NFPA 30A Motor Fuel Dispensing and Repair Garages.
   c. NFPA 31 Standard for the Installation of Oil-Burning Equipment.
   d. NFPA 70 National Electrical Code.
   e. NFPA 704 Standard System for the Identification of Hazards of Materials for Emergency Response.
   f. NFPA 780 Standard for the Installation of Lightning Protection Systems.

10. National Institute of Standards and Technology.
    a. Handbook 44-2007 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices.

11. OSHA: Occupation Safety and Health Act. 29 CFR 1956.

12. Petroleum Equipment Institute (PEI)
    a. PEI/RP200-03 Recommended Practice for Installation of Aboveground Storage Systems for Motor Vehicle Fueling.
    b. PEI/RP100-2000 Recommended Practice for Installation of Underground Liquid Storage Systems.

13. UFC: Uniform Fire Code, 2000 Edition.

14. Underwriters Laboratories, Inc. (UL)
    a. UL-79 Power Operated Pumps for Petroleum Dispensing Products.
    b. UL-87 Standard for Power-Operated Dispensing Devices for Petroleum Products.
    c. UL-142 Steel Aboveground Tanks for Flammable and Combustible Liquids.
    d. UL 353 Limit Controls.
    e. UL-467 Grounding and Bonding Equipment.
    f. UL-536 Standard for Flexible Metallic Hose.
    g. UL-842 Valves for Flammable Fluids.
    h. UL-568C Power Conversion Equipment.
    i. UL-971 Nonmetallic Underground Piping for Flammable Liquids.
    j. UL-2085 Protected Aboveground Tanks for Flammable and Combustible Liquids, Protected Type.
    k. UL-2244 Aboveground Flammable Liquid Tank Systems.

15. California Air Resources Board – CP-206, Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities Using Aboveground Storage Tanks, May 2008

16. Applicable federal, state, and local codes and regulations.

C. QUALITY ASSURANCE

1. Work shall conform to federal, state, and local governing rules and regulations and ordinances, including OSHA and NFPA requirements, and shall pass inspection by the authorities having jurisdiction.

2. Work shall conform to current versions of locally adopted codes.

3. System Responsibility: Vested responsibility for designing, coordinating, and furnishing the system specified herein, and for initial operation is that of the tank manufacturer or if qualified, factory authorized representative, herein referred to as the tank supplier.

D. SUBMITTALS

1. Submit shop drawings, catalog cuts, and manufacturer's data covering all equipment covered in this section. Submit the following for review and approval:
    a. Shop drawings.
    b. Product data: For each type of product indicated, include construction details, material descriptions, and dimensions of individual components and profiles. The intended use of each component that is listed should be included in the description portion of the submission. Also include, where applicable, rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
        i. *Piping specialties:* Include items such as bulkhead fittings, hose adaptors, swivel pipe adaptors, fill caps adaptor, drop tubes, tank vents, tank bottom protectors, etc.

ii. *Valves:* Include pressure rating, capacity, and electrical connection of selected model where applicable.

c. *Design calculations.*
d. *Installation instructions.*
e. *Operations and maintenance manuals.*
f. *Training program.*
g. *Manufacturer's Written Warranty*

2. Submit pumping equipment manufacturer's certification that the equipment supplied meets or exceeds the requirements of the Contract Documents.

E. JOB CONDITIONS

1. The Contractor's equipment and proposed materials shall be at least of the same level of quality as that indicated and specified.

2. Work includes furnishing and installing of ASTs, submersible turbine pumps, suction piping, sumps, dispensers, liquid sensors, level probes, interstitial sensors, shut-off valves, check valves, separator-lubricator assemblies, distribution piping and fittings, fuel hose reel assemblies including support framing, control handles, meters, pump systems, and all other work and material to provide an approved working installation as specified and as shown in the Contract Documents.

3. The various component parts shall function together as a workable fuel dispensing system, complete with everything necessary for its operation and with all equipment properly adjusted and in working order. Unless otherwise specified, any materials described, shown, reasonably implied, or obviously a part of the system and necessary to its complete finish and perfect operation shall be furnished and installed, without extra charge. The Contract Drawings and the Contract Specifications are intended to supplement each other, and any item set forth in either shall be recognized as the same as if fully set forth in both.

4. The Contractor shall be responsible for establishing all pipe sizes and materials, component locations, type and quantities, mounting requirements and hardware, equipment selection, and all other design parameters necessary to provide a complete operable fuel dispensing system as described in the Contract Documents.

5. Site Information: Subsurface conditions were investigated during the design of the project. Reports of these investigations are available for informational purposes only; data in reports are not intended as representations or warranties of accuracy continuity of conditions (between soil borings). The Authority assumes no responsibility of interpretations or conclusions drawn from this information.

F. DELIVERY, STORAGE AND HANDLING

1. Delivery, storage and handling of all fuel dispensing system components shall be in accordance with manufacturer's written instructions.

G. WARRANTY

1. The Contractor shall guarantee its work, material, and equipment and the other Contract performances, and shall remedy, without cost to the Authority, any defects which may develop therein during a period of one year from the date of the Authority's acceptance of the project. The Contractor shall, at its expense, repair or replace any component or equipment that has malfunctioned or has become defective as a result of improper installation. The Contractor's corrective actions shall ensure continuance of the manufacturer's warranty to include recertifying to the manufacturer's requirements.
2. Provide tank manufacturer's 30-year written warranty. This warranty shall cover all defective materials and workmanship of the steel and concrete vaulted tank system. This warranty shall also cover the interior and exterior material and coatings from corrosion, cracking, flaking, spalling, discoloration, or deterioration.
3. Provide dispenser manufacturer's 2-year warranty.

PART 2 - MATERIALS

A. ABOVEGROUND STORAGE TANKS

1. *General*:
Provide one (1) 4,000 gallon double-wall two-compartment AST, and one (1) 6,000 gallon double-wall AST as indicated on the Contract Drawings and specified herein.
2. *Primary Storage Tank*:
   a. The primary storage tanks shall be constructed of UL-specified steel thickness, with continuous welds.
   b. The primary storage tanks shall be constructed of ASTM A-1011 or A-36 carbon steel.
   c. The primary tanks shall be fitted with female NPT fittings as specified herein.
   d. The 4,000 gallon primary tank shall include two (2) separate compartments (2,000 and 2,000 gallons) for storing unleaded gasoline and E-85 fuel and shall be provided with the following fittings in <u>each</u> compartment:
      1) Two (2) 4-inch ports for submerged pumps.
      2) One (1) 24-inch tight-bolt manway with one (1) 8-inch emergency vent port and emergency vent valve.
      3) One (1) 2-inch working vent port with riser pipe and pressure/vacuum vent valve.
      4) One (1) 2-inch port for mechanical gauge.
      5) One (1) 2-inch electronic level gauge.
      6) One (1) 3-inch fill port with anti-siphon holes in drop tube.
      7) One (1) 2-inch spare port with striker plates and tight-fill adapter and lockable cap.
      8) One (1) 4-inch spare port with pipe plug.
      9) Two (2) 2-inch spare port with striker plate and pipe plug.
   e. The 6,000 gallon primary tank for storing diesel fuel shall be fitted with the following:

1) Two (2) 4-inch ports for submerged pumps.
2) One (1) 24-inch tight-bolt manway with one (1) 8-inch emergency vent port and emergency vent valve.
3) One (1) 2-inch Fill Port.
4) One (1) 2-inch Working Vent Port.
5) One (1) 4-inch Emergency Vent Port.
6) One (1) 2-inch Liquid Gauging Port.
7) One (1) 2-inch Port for Dispensing Pump.
8) One (1) 4-inch Phase I Vapor Recovery Port.

f. All fittings shall be threaded NPT risers and supplied with thread protectors and shall be located above the liquid storage level.
g. The primary tanks shall be pressure-tested in accordance with UL-142 (minimum 3 to maximum 5 psi) at the factory, and shall also be field tested by the Contractor to a maximum 3 psi or as specified by the tank manufacturer.
h. The primary tanks shall secure the interstitial barrier material to ensure UL certified protection.

3. *Secondary Leak Containment Tank*:
   a. The secondary tanks shall provide complete containment for the primary tanks.
   b. In addition to openings for all ports in the primary tanks, <u>each</u> secondary tank shall be fitted with the following:
      a) Two (2) 2-inch port for interstitial probe.
      b) One (1) 8-inch emergency vent port.
      c) One (1) 2-inch spare port with pipe plug.
   c. The port openings in the top of the secondary tanks shall be constructed with continuous penetration welds to prevent moisture from seeping between the fire protection material and secondary and primary tanks.
   d. The top of the secondary tanks shall be sloped so that water will not accumulate on top of the tanks.
   e. The secondary tanks shall be pressure-tested liquid-tight in accordance with UL-142 (minimum 3 to maximum 5 psi) at the factory, and shall also be field tested by the Contractor to a maximum 3 psi or as specified by the tank manufacturer.
   f. The exterior surface of the secondary tanks shall be coated with a corrosion-resistant fiber-clad finish such as "Fibervault" by Hoover or approved equal. The total dry thickness shall be a minimum of 1/8-inch. Finish color shall be desert sand.

4. *Fire Protection*:
   a. The fire protection material shall be a minimum of three (3) inches of porous, lightweight monolithic thermal insulation material or lightweight concrete and shall be installed at the factory within the interstitial space between the inner and outer wall. Thermal insulating material:
      1) Shall be in accordance with ASTM C-332 and C-495.
      2) Shall be designed and tested to provide 2 hour fire protection for the primary tank as per U.L. 2085 2-hour furnace fire test and 2 hour simulated pool fire test.
      3) Shall allow liquid to migrate through it to the monitoring point.

4) Shall not be exposed to weathering and shall be protected by the steel secondary containment outer wall.
5) Shall provide a minimum of a R-10 insulating factor.

b. The tank supplier shall certify that the primary and secondary containment do not leak, and that the fire protection material regains its minimum 2-hour protection.

5. *Miscellaneous*:

Two (2) tank fill systems shall be provided on the 4,000 gallon tank and one on the 6,000 gallon tank. Each system shall be side-mounted on the tank at locations as shown on the Contract Drawings. The fill connections shall be accessible from ground height without the need for stairways or ladders to fill the tanks, however, stairs will be required as shown and detailed on the Contract Drawings. The system shall be suitable for use with low pressure hose delivery and have suitable fixtures and valves to prevent spillage and shall include the following:

a) Weatherproof, lockable box with 7-gallons spill container, constructed of cast iron steel.
b) Quick disconnect hose coupling with dust plug.
c) Hand pump for spill containment rated for 1 gallon per minute, with shutoff and check valve.
d) Check valve.
e) Shutoff valve.
f) Dust cover.
g) 6-inch standard face, visible level gauge.
h) Drain port.
i) Fittings size shall be 3-inch.
j) Product color coding per API 1637.
k) Acceptable manufacturers:
   i. FuelPort manufactured by Simplex, Inc.
   ii. Franklin Fueling Systems.
   iii. OPW Engineered Systems.
   iv. Or approved equal.
l) Fill-pipe adaptors shall be provided for filling of fuel into the storage tanks. The adaptor material shall be corrosion resistant material. The o-ring seals for the swivel adaptor shall be made of Viton or Buna-N. The adaptor shall be provided with a nitrile gasket to provide a secure seal with the drop tube fill pipe.

   1) Acceptable manufacturers:
      1. Franklin Fueling Systems.
      2. OPW Engineered Systems.
      3. Or approved equal.

m) A 3-inch drop tubes shall be provided to direct the flow of fuel towards the bottom of the tank. The drop tube shall have a 0.062-inch thick wall for improved durability. The drop tube shall be cut to length and chamfered in the field. The

drop tube shall be furnished with a 3/8-inch breather hole located within three inches of the top of the tank. The bottom of the drop tube shall be within six inches of the bottom of the tank.

1) Acceptable manufacturers:
    1. Model number 782-204-32 manufactured by Franklin Fueling Systems.
    2. OPW Engineered Systems.
    3. Or approved equal.

n) All piping for unleaded gasoline and diesel shall be carbon steel and shall be coated with corrosion protective coating. All piping for E-85 fuel shall be stainless steel Exterior coating shall be the same as tank. Hangers, supports and accessories used shall be applied in accordance with the manufacturer's recommendation for type of service and application and in accordance with MSS SP-69-2003. All hangers, supports, and accessories shall be galvanized.

o) Isolation ball valves shall be provided at locations as shown on the Contract Drawings. Ball valves shall be full port with an open-close arm and a quick quarter turn handle. Ball valves shall be constructed of materials compatible with gasoline and diesel and shall be UL-842 listed.

p) All unused/spare tank openings shall be properly sealed using threaded pipe plugs, flanges or caps, using compatible thread sealant materials.

q) The secondary tanks shall have two (2) 2-inch monitoring ports including a tube which provides a means for installing a sensor to detect product leakage from the primary tank into the dry interstitial space. This design shall be listed under UL-2085.
    1. Tank leak-detection and monitoring system shall include interstitial sensors, and the new Veeder-Root TLS-350 PLUS ATG to monitor leaks in inner walls.
    2. The design shall include any fittings and devices required for testing.
    3. The tank monitor shall be capable of detecting a breach in the inner tank.
    4. The leak detection performance of the liquid monitoring system shall be tested and verified to detect leaks.
    5. Acceptable manufacturers:
        i. Model 7943904XX manufactured by Veeder-Root; a Danaher Corporation Company.
        ii. Or approved equal.

r) Level transmitter shall be a magneto-restrictive probe to provide accurate readings of tank level to the new ATG.
    i The design shall include fittings and devices required for testing.
    ii Controls: The probe shall provide product level and temperature, water level, and over fill alarm.
    iii Acceptable manufacturers:
        1. Probe p/n 846391-3XX manufactured by Veeder-Root; a Danaher Corporation Company.
        2. Or approved equal.

s) The tanks shall be delivered as a complete UL-listed assembly with factory supplied lifting lugs at balancing points to facilitate handling and installation, and

welded-on supports to be set level on a solid foundation. The supports should meet Seismic Zone 4 rating.

6. *Overfill Protection:* Overfill protection shall be provided by the following methods: a) direct reading level gauge visible from fill pipe access; b) valve rated for pressurized delivery located within fill pipe to close automatically at 95% full level; c) high level alarm.

7. *Signage:* Tanks shall be marked on all sides as per state and local codes. Signs will be recessed in concrete exterior to insure against damage during off-loading, refilling or general functions.

8. *Venting:* Tank system shall include a 2" atmospheric vent and emergency venting in accordance with N.F.P.A. 30.

9. The fueling system shall be designed to meet or exceed the minimum requirements of NFPA Sections 30 and 30A, the UFC, and the NEC.

10. Tank dimensions:

    a. 4,000 Gallon Tank Design Criteria:
        i. Tank storage volume: 4,000 gallons
        ii. Maximum tank maximum dimensions: 6'-0" wide by 6'-0" high by 18'-9" long.
        iii. The tank shall be split internally to provide storage for 2,000 gallons of E-85 fuel and 2,000 gallons of unleaded gasoline. An air gap shall separate the two storage compartments.
        iv. Tank shall include 4 dispensers and 2 card readers (1 for E-85 and 1 for gasoline) mounted where shown on the plans.

    b. 6,000 Gallon Tank Design Criteria:
        i. Tank storage volume: 6,000 gallons
        ii. Maximum tank maximum dimensions: 6'-0" wide by 6'-0" high by 27'-11" long.
        iii. Tank shall be designed to store 6,000 gallons of diesel fuel.
        iv. Tank shall include 4 dispensers and two (2) card readers.

B. SUBMERSIBLE TURBINE FUEL PUMPS

1. Pumps:

a. Description: Provide a total of four (4) UL-listed ¾ hp submersible turbine pumps for the gasoline and E-85 tank (one pump for each dispenser) and two (2) submersible turbine pumps for the diesel tank.

b. The entire pumping assemblies shall have UL listing and shall meet all requirements of UL-79. The entire pumping assembly for the E-85 fuel shall have UL listing for use with E-85 fuel.

c. Pumps shall be multi-stage, self-lubricating, and easily removed from tank without disconnecting discharge piping, mechanical or electronic leak detectors, or siphon systems. The pump and motor assembly shall be readily separable from the pump column pipe to allow for simple field replacement of the pump and motor.

d. Impellers shall be splined to the pump shaft to provide positive, non-slip rotation. Diffusers shall be tightly secured to prevent rotation.

e. The motor assembly height shall be field adjustable utilizing a UL-listed telescoping shaft and set to a minimum of five (5) inches from the bottom of the tank.

f. Manifold head assembly shall consist of a manifold and extractable packer assembly and shall be completely sealed against product leakage into the ground and exterior water leakage into the storage tank. The discharge outlet shall be a standard 2-inch NPT opening. The manifold shall have a built-in air purge screw, line check valve, and pressure relief valve, and shall support dual vacuum sensor siphon systems.

g. The contractor's box shall be built into the manifold head assembly and be completely isolated from the fuel path. The extractable packer assembly shall incorporate a lifting eye for safe extraction of the pump motor.

h. The electrical disconnect shall be an integral part of the manifold assembly. The electrical disconnect shall automatically disconnect and sever electrical connection to the pump motor, without a swing joint, when the extractable packer assembly is removed.

i. The pumps shall include an integral check valve and line leak detector to hold operating pressure at 30 psi to minimize loss of pressure due to thermal contraction. The line leak detector shall restrict fuel flow if line pressure is lost or line product loss exceeds 3.0 gph The check valve shall incorporate a feature that mechanically locks the check valve and lifts to provide a larger path to depressurize the line and manifold head assembly, returning fuel to the tank to prevent service spills. The check valve shall provide pressure relief of the product line. The check valve seat shall be constructed of bronze. Contractor shall provide a 3-second on-delay relay for each dispenser solenoid valve to minimize line leak checking intervals.

j. The vacuum sensor siphon system shall be capable of drawing 25 inches of mercury vacuum through a venturi. The vacuum sensor siphon shall incorporate a one-piece rubber check valve to maintain the siphon system vacuum after the pump has been turned off. Check valves shall be incorporated on the siphon inlet and fuel source inlet to the venturi. The inlet shall incorporate a screen that

reduces clogs and failures that can cause false alarms on vacuum monitor systems. The vacuum sensor siphon system shall incorporate a swivel top for easy connection to siphon tubing.

k. The pump discharge head and manifold assembly shall be manufactured from ASTM A48 Class 30 gray cast iron.

l. The pumping unit shall not incorporate any flexible diaphragms and all sealing shall be accomplished with rings constructed of fluorocarbon or UL-recognized fiber gaskets.

m. The pump motors shall be 208/230-volt, 60-Hertz, single-phase, 3,450 RPM, permanent split capacitor type continuous duty, rated explosion proof in a Class I, Group D environment as defined in NFPA 70. The motor windings shall be hermetically sealed against leakage of product or moisture, and shall have a thermal overload device with automatic reset built into

n. the motor windings for motor cut-off when motor temperature reaches a level which may cause damage to the motor.

o. The motor shall have a quick-disconnect type male/female connector to be readily separable for servicing without cutting or splicing of conducting wires. Wiring connections to the motor shall be disconnected by the quick-disconnect. Reconnecting motor to column pipe shall use an alignment dowel pin for positive realignment of electrical male/female connector.

p. The pump motor assembly shall be clearly marked with pertinent information including horsepower, voltage, phase, and manufacturer.

q. The pump motor shell and rotor shaft shall be constructed of stainless steel Type 304 (outer) and Type 301 (stator), and motor bearings shall be constructed of carbon.

r. All components shall be designed and assembled to facilitate disassembly and servicing from above without disrupting the discharge piping, leak detection equipment and vacuum sensor siphon systems.

s. All piping and valves shall comply with NFPA 30 and 30A.

2. *Design Criteria:*
   a. Capacity: ¾ hp 65 gpm at 28psi

3. *Controls:* Provide a pump control box for each submersible pump. The pump control box (Red Jacket Model 880-041-9) shall provide inductive motor switching as well as pump permissive for the dispenser, CFN PCU, and the ATG. Pump control panel shall comply with UL-353 and UL-508C.

4. *Acceptable manufacturers:*

a. E-85 Fuel: Franklin Fueling Systems, Red Jacket Pumps Division of Veeder-Root Company;
b. Unleaded and Diesel Fuel: Franklin Fueling Systems, Red Jacket Pumps Division of Veeder-Root Company.
c. Or approved equal.

C. DISPENSERS

Provide eight (8) UL-listed dispensers to deliver E-85 fuel, unleaded gasoline, and diesel fuel with the following features and capabilities:

1. *Maufacturer:* Pump dispensers shall be the Reliance S1 by Dresser-Wayne or equal.

2. *Compatibility:* For dispensing low viscosity petroleum fuels - diesel, including biodiesel blends up to 20%; E85, and gasoline, including standard oxygenated blends.

3. *Performance:* Up to 22 GPM.

4. *Register:* Non-computer mechanical register with power reset with interlock. Up to 999.9 gallons per delivery. Non–resettable accumulative totalizer up to 9999999.9.

5. *Meter:* Micro-accurate 2-piston positive displacement design. Weights & Measures sealable.

6. *Solenoid Valve:* 1" two-stage valve.

7. *Electrical:* 115VAC, 60 Hz.

8. *Inlet Connection:* 1½" NPT. Bottom access hole sized for 1½" emergency valve installation.

9. *Discharge:* 1" with ¾" reducing bushing.

10. *Mounting:* Tank or shelf-mount.

11. *Cabinet Construction:* All panels shall be fabricated from galvannealed steel for corrosion resistance. Front door shall be lockable and removable for service. Sides and top shall be removable for additional service access.

12. *Cabinet Finish:* Durable all weather powder-coated finish.

13. *Nozzle Boot and Hook:* Fits standard U.L. interchangeable nozzles and Dresser Wayne short spout vapor recovery nozzles. Lift-to-start nozzle hook. Fleet Fueling Group

14. *Hose Hanger:* Keeps hose off ground when not in use.

15. *Actual Dimensions:* Approximately 16"W x 14"D x 29"H

16. *Pressure:* Working pressure up to 50 psi.

17. *Pulsers:* Convert register revolutions to electrical pulses for connection to fuel management systems. 10:1 and 100:1 ratio options.

18. *Hose Mast Kit:* Compatible with equipment selected.

19. *External Filter:* Installed on discharge.

20. *Signage:* Each dispenser shall be clearly labeled: Unleaded Gasoline, Diesel, or E-85.

D. FUEL DISPENSING PIPING AND FITTINGS

1. Provide fuel piping as shown on the Contract Drawings and as specified in this Section.

2. All aboveground piping shall be black carbon steel schedule 40 in accordance ASTM A53, Type S, Class B, in the nominal size indicated in the Contract Documents. Hangers, supports and accessories used shall be applied in accordance with the manufacturer's recommendation for type of service and application and in accordance with MSS SP-69-2003. All hangers, supports, and accessories shall be hot-dip galvanized.

3. Plastic to Steel Pipe Transition Fittings: Factory-fabricated fittings with plastic end matching or compatible with carrier piping, and steel pipe end complying with ASTM A53, black steel, Schedule 40, Type E or S, Grade B.

4. Flexible entry termination boots shall be provided where ducting terminates at secondary containments and sumps. All termination boots shall be air testable to confirm leak tight integrity over the life of this component.

   a. Acceptable manufacturers:
      1) APT Division of Franklin Fueling Systems;
      2) Or approved equal.

5. Clamshell Secondary Test Boots shall be provided wherever non-ferrous piping penetrates a sump or other secondary containment to permit testing of the interstitial space between the primary and secondary layers of the double-walled pipe.

   a. Acceptable manufacturers:
      1) APT Division of Franklin Fueling Systems;

2) Or approved equal.

6. Joining Materials:
   a. *Joint compound and Teflon tape suitable for fuel.*
   b. *Acceptable manufacturers:*
      1) Loctite 567 manufactured by Henkel Technologies;
      2) Or approved equal.

E. PIPE SUPPORTS

1. Hangers, supports and accessories used shall be provided in accordance with the manufacturer's recommendation for type of service and application. All hangers, supports, and accessories shall be hot-dip galvanized.

F. EMERGENCY SPILL KIT

The Contractor shall provide one emergency spill kit as specified in this Section.

1. *Contents:*
   50 - Absorbent Pads
   12 - Absorbent Socks (3"x48")
   2 - Absorbent Pillows
   1 - Pair Goggles
   1 - Pair Nitrile Gloves
   3 - Disposal bags
2. *Container:*
   Drum size - 21.125"x28.5" 30 gallon Yellow polyethylene container with screw-on lid with gasket, weatherproof, UV inhibitors and is chemical resistant to most materials.
   Absorbs 25 Gallons
3. *Manufacturer/ Supplier:*

   AbsorbentsOnline.com
   PCI Products Company
   4195 Chino Hills Pkwy., #360
   Chino Hills, CA 91709

G. AUTOMATIC TANK GAUGING AND LEAK DETECTION SYSTEM

1. *Manufacturer:* OMNTEC Manufacturing, Inc., 1993 Pond Road, Ronkonkoma, NY 11779 or approved equal. Model OEL8000II
2. *Function:* Monitors product levels, water levels, temperatures, and leaks for up to 8 tanks. Monitors product levels, water levels, temperatures, and leaks for up to 8 tanks. The system shall accurately monitor tank inventory and transmit data to the Commercial Fuel Network (CFN). It shall provide an audible/visual tank overfill and interstitial leak

alarm, lock-out of submerged pump at low inventory levels, detect one (1) inch or more of liquid accumulation in a dispenser pan/sump, perform continuous statistical leak detection, detect all interstitial piping leaks, and monitor water accumulation in the diesel inventory.

3. *Features:* 4 RS-232 ports, 1 RS-485 port, FAX/modem compatible, 4-line by 40 character backlit LCD display, accepts up to 6 interface boards, battery backup, CITLD upgradable, UL-listed.
4. *Specifications:* 36-character thermal printer, 100-240 VAC, 50/60 Hz, 50 watts. 14,400 baud modem, audible alarm, 20 key oil resistant tactile key pad, 3 LEDS (OK, Fault, alarm), shielded BX series 22 AWG sensor cable with drain wire, MTG probes, OMNTEC EC-2 shielded Belden #8791 low inductance (< 0.2 microhenries per foot).
5. *Sensors:* OMNTEC, Bright Eye (BX-Series), 4 wire buss, network compatible.

H. FUEL MANAGEMENT SYSTEM

Description: The purpose of the system is to control and provide accurate accounting of all fuel and related products being dispensed. The system, in recording each transaction shall identify the driver, the vehicle, the day and time of the transaction, and the type and amount of fuel dispensed. Access to products shall be restricted to persons holding valid cards and who perform a predetermined series of data entry operations. The system provided shall be compatible with existing Authority fuel management system currently in use at other sites and shall be capable of processing dual hose use simultaneously from the same dispenser. The fuel management system shall be compatible with the existing Authority system and coordinated through Commercial Fuel Systems. (301-829-0875) The current system is a Gasboy model CFN-1.

System Equipment: The system shall be comprised of the following components:

1. *The Card Readers:* The four (4) card readers shall be the only piece of equipment in the system to which users shall have access. It shall provide clear and concise prompting to the user.
2. *The Micro-Computer:* The major control component for the system shall be a microprocessor based unit to be designed and constructed with state-of-the-art technology
3. *The Control Cabinet:* The control cabinet shall be keyed accessed and located adjacent to the micro-computer cabinet. This cabinet shall house the relays through which electrical power to the pumping devices is controlled.
4. *Data Terminal:* The data terminal shall be the device through which on-site communication with and control of the system shall be effected. The data terminal shall be located inside the building and will allow authorized personnel to activate the terminal through the use of a security key.
5. *Printer:* The printer shall be located adjacent to the data terminal which:

    i. Shall operate as an on-line device to record transaction data in real time as each fuel transaction is completed.

    ii. Shall operate in conjunction with the data terminal as a self-prompting device for on-site data entry and display.

6. *Transaction Recorder:* A transaction recording device shall be located adjacent to the data terminal and printer which:

   i. Shall record all transaction data in non-volatile solid state memory such that in the event of power failure no data will be lost.

   ii. Shall indicate through a series of LED displays its status and operation mode for diagnostic purposes.

PART 3 - EXECUTION

A. INSTALLATION

1. Manufacturer will have a minimum of 5 years experience in producing specified tank for commercial use and document at least 10 installations in satisfactory operation.

2. The tank system including accessories shall be installed in strict accordance with the manufacturer's recommendations and applicable fire and environmental codes. All state and local permits shall be obtained by contractor prior to installation.

3. Tanks shall be installed on a reinforced concrete base slab designed to support the fully loaded tank. Protective bollards shall be installed where required by state and local codes.

4. Tanks shall be marked on all sides with warning signs: "FLAMMABLE" or "COMBUSTIBLE", "NO SMOKING", product identification, a NFPA rating label, and other signs as required by applicable codes.

5. Electrical work shall be in accordance with applicable codes and shall be rated for hazardous area as required. Electric feed for dispensing pumps shall include an emergency shutoff switch located per code requirements. Tanks shall be electrically grounded in accordance with N.F.P.A. 78.

6. The system installation shall be inspected and approved by the system supplier or its certified contractor. The system supplier shall submit a comprehensive checklist of quality and safety items critical to the system and verify that the installation has been in accordance with these standards and applicable fire and environmental codes.

B. EQUIPMENT TEST AND CHECK-OUT

1. The equipment shall be tested in the presence of the Authority's Representative to his/her satisfaction and demonstrated to be correctly connected and installed. Submit a testing schedule to the Authority for approval prior to the start of the equipment test and check-out.

2. Testing and check-out procedures of the manufacturer shall be carried out completely.

3. Equipment tests shall not only be performed to demonstrate that the equipment has been properly installed and connected and operates properly, but also to demonstrate that the equipment performs the work for which it is intended.

4. Tested equipment found to be defective or inoperable to any extent shall be reported to the Authority immediately.

5. Any operating difficulty or defective item shall be repaired or replaced and put into proper operation by the Contractor immediately, at no additional expense to the Authority.

6. Contractor shall protect equipment and surrounding areas from damage resulting from testing operations, and shall clean-up any spills or leakage resulting from testing.

7. Contractor shall bear all expenses of all tests, including the furnishing of all necessary instruments, lubricants, hydraulic fluid, supplies, data recorders, and operation personnel. Provide and bear all expenses for fuel/power required to operate the equipment during the tests.

8. Perform testing of the equipment and system in accordance with the requirements specified in Contract Documents. Perform and document all testing procedures recommended by the manufacturer. Include the following tests:

    a. Test system performance by measuring quantity of product dispensed over time at each designated "TEST" fluid and semi-solid control handle. Minimum measured output over time shall meet of exceed the "Minimum Delivery Rate" for the corresponding fluid as specified. Tests shall be performed three (3) times within a span of five (5) minutes at each control handle.
    b. Test meter at each metering control handle by measuring volume of product dispensed. Measured volume of product dispensed shall correspond with volume of product indicated on meeting control handle within +/-0.65 percent of full dial range.
    c. Test each hose reel for proper extension and retraction.

9. At the sole discretion of the Engineer, the Contractor may be required by repeat any tests, at no cost to the Authority.

10. Contractor shall perform the following tests to demonstrate fueling system features and compliance:
    a. Piping Tightness: Air test at 50 psig for one hour, soap all joints;
    b. Tank Tightness: Per manufacturer's written instruction;
    c. Dispenser meter calibration shall be per NIST Handbook 44;
    d. Shear Valve: Contractor shall demonstrate no flow when tripped;

e. Liquid level gauges: Gauges shall be calibrated per manufacturer's directions and shall be compared with manual gauges;
f. Interstitial Sensor: Contractor shall simulate leak and verify alarm response;
g. Overfill Prevention Alarm: Contractor shall verify setting at 90 percent of tank capacity;
h. Grounding Continuity: From tank ground rod to dispenser nozzle;
i. Emergency Stop Switch: Contractor shall activate and verify all circuits are disconnected from the source; and

C. INSPECTION AND TRAINING

1. The system installation shall be inspected and approved by the Engineer. The Engineer shall submit a comprehensive checklist of quality and safety items critical to the system and verify that the installation has been in accordance with these standards and applicable fire and environmental codes.

2. Contractor shall be responsible to repair any quality or safety items, as found by the Engineer, at no cost to the Authority.

3. Contractor shall be responsible to provide as a minimum two (2) 2-hour training sessions of complete system operation and maintenance. The Contractor shall coordinate the session dates with the Authority.

END OF SECTION 33 07 02

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
011001-01	1.00	LUMP SUM Mobilization / Demobilization AT _____. LUMP SUM				
011010-01	1.00	LUMP SUM Eastern Facility Operations Building AT _____. LUMP SUM				
011010-02	1.00	LUMP SUM Eastern Facility Fuel Island AT _____. LUMP SUM				
011010-03	1.00	LUMP SUM Eastern Facility Salt Building AT _____. LUMP SUM				
011010-04	1.00	LUMP SUM Eastern Facility Storage Building AT _____. LUMP SUM				
012100-01	1.00	LUMP SUM Allowance No. 1 - Miscellaneous Construction AT one million dollars and no cents. LUMP SUM	$1,000,000	00	$1,000,000	00
012100-02	1.00	LUMP SUM Allowance No. 2 - PEPCO AT seventy five thousand dollars and no cents. LUMP SUM	$75,000	00	$75,000	00

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
012100-03	1.00	LUMP SUM Allowance No. 3 - Verizon AT twenty thousand dollars and no cents . LUMP SUM	$20,000	00	$20,000	00
012100-04	1.00	LUMP SUM Allowance No. 4 - Comtaminated Soils Removal & Disposal AT fifty thousand dollars and no cents . LUMP SUM	$50,000	00	$50,000	00
012100-05	1.00	LUMP SUM Allowance No. 5 - WSSC Fees AT one hundred fifty thousand dollars and no cents . LUMP SUM	$150,000	00	$150,000	00
012100-06	1.00	LUMP SUM Allowance No. 6 – Site Demolition AT one hundred thousand dollars and no cents . LUMP SUM	$100,000	00	$100,000	00
012100-07	1.00	LUMP SUM Allowance No. 7 - Price Adjustment for Asphalt Binder AT thirty five thousand eight hundred dollars and no cents . LUMP SUM	$35,800	00	$35,800	00
012300-01	1.00	LUMP SUM Alternate No. 1 – Covered Storage Bins AT . LUMP SUM				
015000-01	1.00	LUMP SUM Temporary Facilities and Controls AT . LUMP SUM				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
221113-01	2,315.00	LINEAR FOOT 10-Inch Water DIP & Fittings AT _____. LINEAR FOOT				
221113-02	40.00	LINEAR FOOT 8-Inch Water Meter Bypass DIP & Fittings AT _____. LINEAR FOOT				
221113-03	3.00	EACH 8-Inch Meter Bypass Gate Valve & Box AT _____. EACH				
221113-04	1.00	EACH 8-Inch FM Water Meter, Vault and Appurtances AT _____. EACH				
221113-05	95.00	LINEAR FOOT 6-Inch Water DIP & Fittings AT _____. LINEAR FOOT				
221113-06	4.00	EACH 6-Inch Gate Valve & Box AT _____. EACH				
221113-07	4.00	EACH Fire Hydrant AT _____. EACH				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
221113-08	280.00	LINEAR FOOT 1-1/2-Inch Water Copper Pipe & Fittings AT _____. LINEAR FOOT				
221113-09	1.00	EACH 1-1/2-Inch Curb Box Valve Assembly AT _____. EACH				
221113-10	80.00	LINEAR FOOT 1-Inch Water Copper Pipe & Fittings AT _____. LINEAR FOOT				
221113-11	3.00	EACH 1-Inch Yard Hydrant AT _____. EACH				
221113-12	3.00	EACH 1-Inch Curb Box Valve Assembly AT _____. EACH				
221113-13	1.00	EACH Connect to Existing Water Main AT _____. EACH				
221113-14	1.00	EACH 6-Inch Post Indicator Valve AT _____. EACH				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
221113-15	5.00	EACH 10-Inch Gate Valve & Box AT _____. EACH				
221113-16	1.00	EACH 42-Inch x 10-Inch Tapping Sleeve & Valve AT _____. EACH				
221313-01	1,270.00	LINEAR FOOT 8-Inch PVC Pipe (SDR 26) AT _____. LINEAR FOOT				
221313-02	200.00	LINEAR FOOT 6-Inch PVC Pipe (SDR 26) AT _____. LINEAR FOOT				
221313-03	40.00	LINEAR FOOT 6-Inch Ductile Iron Pipe (CL. 54) AT _____. LINEAR FOOT				
221313-04	8.00	EACH Standard Sanitary Manhole AT _____. EACH				
221313-05	2.00	EACH Type 'B' Drop Sanitary Manhole AT _____. EACH				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
221313-06	1.00	EACH 6-Inch Sanitary Cleanout AT _____. EACH				
221313-07	1.00	EACH Connect to Existing Sanitary Manhole AT _____. EACH				
221313-08	115.00	LINEAR FOOT 8-Inch Ductile Iron Pipe (CL. 54) AT _____. LINEAR FOOT				
221323-01	1.00	EACH 1,000 Gallon Oil/Water Separator and Accessories AT _____. EACH				
260543-01	5,000.00	LINEAR FOOT 1-Inch Schedule 40 - Direct Buried AT _____. LINEAR FOOT				
260543-02	1,300.00	LINEAR FOOT 1-1/2 Inch Schedule 40 - Direct Buried AT _____. LINEAR FOOT				
260543-03	6,600.00	LINEAR FOOT 1-Inch PVC Coated Rigid Steel Conduit AT _____. LINEAR FOOT				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
260543-04	75.00	LINEAR FOOT 1-1/4 Inch Schedule 40 - Concrete Encased AT _____. LINEAR FOOT				
260543-05	380.00	LINEAR FOOT 2-Inch Schedule 40 - Concrete Encased AT _____. LINEAR FOOT				
260543-06	500.00	LINEAR FOOT 3-Inch Schedule 40 - Concrete Encased AT _____. LINEAR FOOT				
260543-07	1,900.00	LINEAR FOOT Two-Way, 4-Inch Duct Bank, Concrete Encased AT _____. LINEAR FOOT				
260543-09	140.00	LINEAR FOOT Ten-Way, (6)4-Inch Duct Bank and (4) 1-Inch Duct Bank Concrete Encased AT _____. LINEAR FOOT				
260543-10	110.00	LINEAR FOOT Fifteen-Way, 4-Inch Duct Bank, Concrete Encased AT _____. LINEAR FOOT				
260543-11	1,300.00	LINEAR FOOT Two-Way, 4-Inch Duct Bank, Concrete Encased With (1)-96 Count Fiberoptic Cable and (1) Spare AT _____. LINEAR FOOT				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
260543-12	19.00	EACH 36 X 36 X 24 Inch Hand Box AT _____. EACH				
260543-13	1,300.00	LINEAR FOOT Two-Way, 4-Inch Schedule 40 PVC Direct Buried AT _____. LINEAR FOOT				
260543-14	3,700.00	LINEAR FOOT Two-Way, 4-Inch Schedule 40 PVC Direct Buried With (1)-96 Count Fiberoptic Cable and (1) Spare AT _____. LINEAR FOOT				
265600-01	11.00	EACH Thirty (35) Foot Light Pole - 1 Luminaire AT _____. EACH				
265600-02	7.00	EACH Thirty (35) Foot Light Pole - 2 Luminaire AT _____. EACH				
265600-03	18.00	EACH Concrete Pole Foundation AT _____. EACH				
311000-01	1.00	LUMP SUM Clearing and Grubbing AT _____. LUMP SUM				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
311000-02	6,000.00	CUBIC YARD Stripping of Topsoil AT _____. CUBIC YARD				
311500-01	2,000.00	CUBIC YARD Erosion and Sediment Control Original Excavation AT _____. CUBIC YARD				
311500-02	2,800.00	CUBIC YARD Erosion and Sediment Control Cleanout Excavation AT _____. CUBIC YARD				
311500-03	226.00	LINEAR FOOT Earth Dike (A-2) AT _____. LINEAR FOOT				
311500-04	1,200.00	LINEAR FOOT Earth Dike (A-3) AT _____. LINEAR FOOT				
311500-05	175.00	LINEAR FOOT Temporary Swale A-2 AT _____. LINEAR FOOT				
311500-06	221.00	LINEAR FOOT Earth Dike (B-3) AT _____. LINEAR FOOT				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
311500-07	186.00	LINEAR FOOT Temporary Swale (A-1) AT _____. LINEAR FOOT				
311500-08	469.00	LINEAR FOOT Temporary Swale (B-3) AT _____. LINEAR FOOT				
311500-09	88.00	TON Class I Riprap for Temporary Rock Outlet Protection AT _____. TON				
311500-10	90.00	TON Stabilized Construction Entrance AT _____. TON				
311500-11	28.00	LINEAR FOOT Temporary 24" RCP AT _____. LINEAR FOOT				
311500-12	451.00	LINEAR FOOT Pipe Slope Drain 18-Inch AT _____. LINEAR FOOT				
311500-13	207.00	LINEAR FOOT Pipe Slope Drain 24-Inch AT _____. LINEAR FOOT				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
311500-14	241.00	LINEAR FOOT 36-inch Temporary Flexible Diversion Pipe AT _____. LINEAR FOOT				
311500-15	37.00	TON Riprap for Riprap Inflow Protection AT _____. TON				
311500-16	26.00	CUBIC YARD Gabion Inflow Protection Baskets AT _____. CUBIC YARD				
311500-17	155.00	TON 4-Inch to 7-Inch Stone for Sediment Traps AT _____. TON				
311500-18	205.00	LINEAR FOOT Silt Fence AT _____. LINEAR FOOT				
311500-19	3,870.00	LINEAR FOOT Super Silt Fence AT _____. LINEAR FOOT				
311500-20	115.00	TON Permanent Class 1 Riprap Outfall Protection AT _____. TON				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
311500-21	96.00	TON Permanent Class 2 Riprap Outfall Protection AT _____. TON				
311500-22	88.00	LINEAR FOOT 24-Inch Reinforced Concrete Pipe for Sediment Basin AT _____. LINEAR FOOT				
311500-23	4,500.00	LINEAR FOOT Temporary Orange Construction Fence with Forest Conservation Signage AT _____. LINEAR FOOT				
311500-24	1.00	EACH Sump Pit AT _____. EACH				
311500-25	1.00	EACH Removable Pumping Station AT _____. EACH				
311500-26	1.00	EACH Portable Sediment Tank AT _____. EACH				
312000-01	88,000.00	CUBIC YARD Class 1 Excavation AT _____. CUBIC YARD				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
312000-02	2,880.00	CUBIC YARD Class 1-A Excavation AT _____. CUBIC YARD				
312500-01	6,000.00	SQUARE YARD Subgrade Preparation for Lawn and Planting Areas AT _____. SQUARE YARD				
312500-02	2,000.00	CUBIC YARD Topsoil AT _____. CUBIC YARD				
321150-01	32,370.00	SQUARE YARD Graded Aggregate Base, 8-Inch Thickness AT _____. SQUARE YARD				
321150-02	255.00	SQUARE YARD Graded Aggregate Base, 6-Inch Thickness AT _____. SQUARE YARD				
321216-01	10,219.00	TON HMA Superpave for Base Course AT _____. TON				
321216-02	4,088.00	TON HMA Superpave for Surface Course AT _____. TON				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
321315-01	440.00	SQUARE YARD 10 Inch Reinforced Concrete Pavement AT _____. SQUARE YARD				
321315-02	160.00	SQUARE YARD 8 Inch Reinforced Concrete Pavement / Pad AT _____. SQUARE YARD				
321315-03	1.00	LUMP SUM MgCl Tank Concrete Slab AT _____. LUMP SUM				
321340-01	4,607.00	LINEAR FOOT Mod. Type A Combination Conc. Curb & Gutter AT _____. LINEAR FOOT				
321340-02	1,597.00	LINEAR FOOT Mod. Type D Combination Conc. Curb & Gutter AT _____. LINEAR FOOT				
321500-01	1,100.00	SQUARE YARD Cellular Confinement Load Support System for Roads AT _____. SQUARE YARD				
322100-01	550.00	LINEAR FOOT 12" Yellow Waterborne Traffic Paint Line AT _____. LINEAR FOOT				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
322100-02	4,235.00	LINEAR FOOT 5" Yellow Waterborne Traffic Paint Line AT _____. LINEAR FOOT				
322100-03	32.00	LINEAR FOOT 24" Yellow Waterborne Traffic Paint Line AT _____. LINEAR FOOT				
322100-04	7,578.00	LINEAR FOOT 5-Inch White Watebourne Marking Lines Paint AT _____. LINEAR FOOT				
322100-05	4.00	SQUARE FOOT White Preformed Thermoplastic Pavement Markings for Symbols and Legends AT _____. SQUARE FOOT				
322100-06	131.00	LINEAR FOOT Wood Sign Supports, 4-Inch x 4-Inch AT _____. LINEAR FOOT				
322100-07	41.00	SQUARE FOOT Sheet Aluminum Signs AT _____. SQUARE FOOT				
322100-08	27.00	LINEAR FOOT Galvanized Tubular Steel Post, 5" x 5" x ¼" AT _____. LINEAR FOOT				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
322100-09	2.20	CUBIC YARD Concrete Foundation for Sign AT _____. CUBIC YARD				
322100-10	4.00	EACH Breakaway Base Support System AT _____. EACH				
322100-11	2.00	SQUARE FOOT White Preformed Thermoplastic Pavement Markings for Arrows AT _____. SQUARE FOOT				
322100-12	96.00	SQUARE FOOT Extruded Aluminum Sign AT _____. SQUARE FOOT				
323113-01	1,998.00	LINEAR FOOT 8-Foot Chain Link Security Fence AT _____. LINEAR FOOT				
323113-02	1.00	EACH 12-Foot Wide Dual Leaf Swing Gate AT _____. EACH				
323113-03	2.00	EACH 6-Foot Wide Single Leaf Swing Gate AT _____. EACH				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
323113-04	1.00	EACH 30-foot Wide Dual Leaf Cantilevered Slide Gate AT _____. EACH				
323113-05	1.00	EACH 28-foot Wide Dual Leaf Cantilevered Slide Gate AT _____. EACH				
329300-01	10.00	EACH Betula nigra 'Dura Heat' / River Birch, 8' Ht., B&B AT _____. EACH				
329300-02	15.00	EACH Quercus bicolor / Swamp White Oak, 3" Cal., B&B AT _____. EACH				
329300-03	66.00	EACH Quercus phellos / Willow Oak, 3" Cal., B&B AT _____. EACH				
329300-04	10.00	EACH Quercus palustris / Pin Oak, 3" Cal., B&B AT _____. EACH				
329300-05	6.00	EACH Zelkova serrata 'Green Vase' / Green Vase Zelkova, 3" Cal., B&B AT _____. EACH				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
329300-06	17.00	EACH Amelanchier canadensis / Serviceberry, 8' Ht., B&B AT _____. EACH				
329300-07	24.00	EACH Cercis canadensis / Eastern Redbud, 8' Ht., B&B AT _____. EACH				
329300-08	16.00	EACH Crataegus crusgalli / Cockspur Hawthorn, 2 1/2" Cal., B&B AT _____. EACH				
329300-09	23.00	EACH Chionanthus virginicus / White Fringetree, 8' Ht., B&B AT _____. EACH				
329300-10	11.00	EACH Halesia tetraptera / Carolina Silverbell, 8' Ht., B&B AT _____. EACH				
329300-11	8.00	EACH Hamamelis virginiana / Witch-hazel, 6' Ht., B&B AT _____. EACH				
329300-12	15.00	EACH Magnolia virginiana / Sweetbay Magnolia, 8' Ht., B&B AT _____. EACH				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
329300-13	15.00	EACH Oxydendrum amurense / Sourwood, 6' Ht./10 Gal., B&B AT _____. EACH				
329300-14	30.00	EACH Juniperus virginiana / Eastern Red Cedar, 8' Ht., B&B AT _____. EACH				
329300-15	48.00	EACH Ilex opaca / American Holly (MDOT Approved Cultivar), 8' Ht., B&B AT _____. EACH				
329300-16	35.00	EACH Pinus strobus / White Pine, 8' Ht., B&B AT _____. EACH				
329300-17	30.00	EACH Thuja plicatum 'Green Giant' / Green Giant Arborvitae, 8' Ht., B&B AT _____. EACH				
329300-18	116.00	EACH Aronia arbutifolia 'Brilliantissima' / Red Chokeberry, 30" Spd., #5 AT _____. EACH				
329300-19	70.00	EACH Ilex glabra / Inkberry, 24" Spd., #5 AT _____. EACH				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
329300-20	162.00	EACH Itea virginica / Virginia Sweetspire, 24" Spd., #5 AT _____. EACH				
329300-21	69.00	EACH Ilex verticillata 'Winter Gold' / Winter Gold Winterberry, 30" Spd., #7 AT _____. EACH				
329300-22	269.00	EACH Juniperus conferta / Shore Juniper, 18" Spd., #5 AT _____. EACH				
329300-23	156.00	EACH Viburnum dentatum / Arrowood Viburnum, 36" Spd., #5 AT _____. EACH				
329300-24	3,337.00	EACH Liriope muscari 'Big Blue' / Big Blue Liriope, 1 Gal., #1 AT _____. EACH				
329300-25	191.00	EACH Pennisetum aloepecuroides 'Hameln' / Dwarf Fountain Grass, 1 Gal. #1 AT _____. EACH				
329300-26	2,120.00	EACH Schizachyrium scoparium ' The Blues' / Little Bluestem, 1 Gal., #1 AT _____. EACH				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
329300-27	653.00	SQUARE YARD Mulching Shrub Beds AT _____. SQUARE YARD				
329300-28	48.00	1,000 GALLONS Additional Watering AT _____. 1,000 GALLONS				
329300-29	3.00	CUBIC FOOT Plant Relocation AT _____. CUBIC FOOT				
329300-30	3.00	CUBIC FOOT Abandoned Planting Pits AT _____. CUBIC FOOT				
329300-31	1.00	1,000 GALLONS. Plant Refertilization AT _____. 1,000 GALLONS				
329300-32	1.00	LUMP SUM Two (2) Year Maintenance Agreement AT _____. LUMP SUM				
329300-33	56.00	EACH Acer rubrum / Red Maple, #7 Container AT _____. EACH				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
329300-34	56.00	EACH Quercus alba / White Oak, #7 Container AT _____ EACH				
329300-35	56.00	EACH Quercus rubra / Red Oak AT _____ EACH				
329300-36	56.00	EACH Liquidambar styraciflua / Sweetgum AT _____ EACH				
329300-37	43.00	EACH Chionanthus virginicus / White Fringetree, 8' Ht., B&B AT _____ EACH				
329300-38	43.00	EACH Hamamelis virginiana / Witch-hazel, #7 Container AT _____ EACH				
329300-39	0.81	ACRE Sodded Lawn AT _____ ACRE				
329300-40	1.14	ACRE Upland Seed Mix AT _____ ACRE				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
329500-01	1.00	LUMP SUM Conversion of Sediment Basin to Stormwater Management Facility AT _____. LUMP SUM				
334100-01	1,640.00	LINEAR FOOT 18-Inch Reinforced Concrete Pipe, Class 4 AT _____. LINEAR FOOT				
334100-02	580.00	LINEAR FOOT 24-Inch Reinforced Concrete Pipe, Class 4 AT _____. LINEAR FOOT				
334100-03	570.00	LINEAR FOOT 30-Inch Reinforced Concrete Pipe, Class 4 AT _____. LINEAR FOOT				
334100-04	44.00	LINEAR FOOT 36-Inch Reinforced Concrete Pipe, Class 4 AT _____. LINEAR FOOT				
334100-05	109.00	LINEAR FOOT 48-Inch Reinforced Concrete Pipe, Class 4 AT _____. LINEAR FOOT				
334100-06	244.00	LINEAR FOOT 36-Inch Reinforced Concrete Pipe ASTM C361 AT _____. LINEAR FOOT				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
334100-07	1.00	EACH Type B Headwall, 48-Inch Pipe AT _____. EACH				
334100-08	1.00	EACH Modified Type C Endwall, 48-Inch Pipe AT _____. EACH				
334100-09	1.00	EACH Type C Endwall, 24-Inch Pipe AT _____. EACH				
334100-10	1.00	EACH Type C Endwall, 36-Inch Pipe AT _____. EACH				
334100-11	3.00	EACH Std. Concrete End Section, 24-Inch Pipe AT _____. EACH				
334100-12	1.00	EACH Std. Concrete End Section, 36-Inch Pipe AT _____. EACH				
334100-13	4.00	EACH Precast Std. Type S Inlet, Double Grate Tandem, Min. Depth AT _____. EACH				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
334100-14	6.00	LINEAR FOOT Precast Std. Type S Inlet, Double Grate Tandem, Vert. Depth AT _____. LINEAR FOOT				
334100-15	10.00	EACH Precast Std. Type S Combination Inlet, Double Grate Tandem, Min. Depth AT _____. EACH				
334100-16	11.00	LINEAR FOOT Precast Std. Type S Combination Inlet, Double Grate Tandem, Vert. Depth AT _____. LINEAR FOOT				
334100-17	4.00	EACH Standard Curb Open on Grade (COG) Inlet, 10-ft AT _____. EACH				
334100-18	3.00	EACH Standard Curb Open on Grade (COG) Inlet, 15-ft AT _____. EACH				
334100-19	1.00	EACH Riser Structure (Reinforced PCC) AT _____. EACH				
334100-20	750.00	LINEAR FOOT 6-Inch Ductile Iron Pipe, Roof Drains AT _____. LINEAR FOOT				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
334100-21	8.00	EACH Ductile Iron Pipe Cleanouts, Roof Drains AT _____. EACH				
334100-22	3.00	EACH Standard Type HS Combination Inlet, Min. Depth AT _____. EACH				
334100-23	13.00	LINEAR FOOT Standard Type HS Combination Inlet, Vert. Depth AT _____. LINEAR FOOT				
334100-24	1.00	EACH 60-inch Diameter Precast Manhole, Min. Depth AT _____. EACH				
334100-25	4.00	EACH 48-Inch Square Standard Shallow Manhole, Min. Depth AT _____. EACH				
334100-26	1.00	LINEAR FOOT 48-Inch Square Standard Shallow Manhole, Vert. Depth AT _____. LINEAR FOOT				
334100-27	1,150.00	LINEAR FOOT 8-Inch Ductile Iron Pipe, Roof Drains AT _____. LINEAR FOOT				

SCHEDULE OF PRICES

NOTE: This proposal shall be filled in by the bidder, with the prices written in words and numerals. The extension amounts of unit costs shall also be filled in. For complete information concerning these items, see Specifications, Special Provisions and Contract Form.

ITEM NOS.	APPROXIMATE QUANTITIES	DESCRIPTION OF ITEM AND PRICE BID (IN WRITTEN WORDS)	UNIT PRICE DOLLARS	UNIT PRICE CTS.	AMOUNTS DOLLARS	AMOUNTS CTS.
334606-01	3,134.00	LINEAR FOOT Underdrains AT _____. LINEAR FOOT				
		AGGREGATE AMOUNT oF Bid Items 011001-01 Through 334606-01 AT _____.				
Informational Unit Price for Allownace No. 4	N/A	TON Proper Removal and Disposal of Contaminated Soils AT _____. TON			N/A	
Informational Unit Price for Allownace No. 4	N/A	CUBIC YARD Backfill Material for Removed Contaminated Soils AT _____. CUBIC YARD			N/A	

CONTRACT NO. IC-2341-000-006

DLLR
STATE OF MARYLAND
DEPARTMENT OF LABOR, LICENSING AND REGULATION

MARTIN O'MALLEY, Governor
ANTHONY G. BROWN, Lt. Governor
Thomas E. Perez, Secretary

J. Ronald DeJulius, Commissioner
Division of Labor and Industry

DLLR Home Page • http://www.dllr.state.md.us
DLLR E-mail* dli@dllr.state.md.us

UNSKILLED CONSTRUCTION LABORER'S WORK

Laborers may **NOT** assist mechanics in the performance of the mechanic's work, **NOR USE TOOLS** peculiar to established trades.

Their work should be confined to the following manual tasks:

1. Digging and filling holes and trenches.
2. Loading, unloading and stockpiling materials.
3. Cleaning and sweeping.
4. Driving stakes.
5. Placing concrete and asphalt (not finishing).
6. Stripping forms.
7. Ripping out material which is to be discarded.
8. Clearing and grubbing.

HELPERS AND TRAINEES

ALL contractors shall employ only competent workers and apprentices and may **NOT** employ and individual classified as a **HELPER** or **TRAINEE**.

1100 N. Eutaw Street, Room 607
Baltimore, Maryland 21201

410-333-7303-Fa
TTY For the Deaf (410-767-211

.02 Payroll Records

A. Within 14 days after the end of each payroll period, a contractor shall submit to the Commissioner of Labor & Industry and to the contracting public body a complete copy of:

(1) The contractor's payroll records; and

(2) Each subcontractor's payroll records.

B. Form. Payroll records shall:

(1) Be submitted on the U.S. Department of Labor's Wage and Hour and Public Contracts Division Payroll Form WH-347.

(2) Include either the:

(a) Certificate described in State Finance and Procurement Article, Section 17-220, or.

(b) Compliance Certificate in payroll form WH-347, fully completed and executed; and

(3) Be numbered serially starting with payroll number 1.

C. Contents. Each payroll record shall:

(1) Contain only information relevant to the public work project under construction.

(2) List:

(a) The name, address, and TELEPHONE NUMBER of the contractor or the subcontractor;

(b) The name, location, and project number of the job; and

(c) Each employee's:

(i) Full name and social security number,

(ii) CURRENT ADDRESS,

(iii) Specific work classification,

(iv) Daily straight time and overtime hours,

(v) Total straight time and overtime hours for payroll period,

(vi) Rate of pay,

(vii) Fringe benefits by type and amount, and

(viii) Gross wages

PREVAILING WAGE INSTRUCTIONS FOR THE CONTRACTOR

The contractor shall submit TWO complete copies of his payroll records and the payroll records of each of his subcontractors-one copy to the Contracting Officer and **ONE to the Commissioner of Labor & Industry, Prevailing Wage Unit,** 1100 N. Eutaw Street, Room 607, Baltimore, Maryland 21201, where they will be available for inspection during business hours. These payroll records must be submitted within 14 calendar days after the end of each payroll period and shall contain the following information: **Contractor's name, address & telephone number; location and project number of the job; Employees name, address, social security number, exact and specific work classification, hours-straight time and overtime-worked each day; total hours-straight time and overtime-worked rate of pay and gross wages earned.** Employee's address may be dropped after it has been reported one time. Payrolls shall be submitted on U.S. Department of Labor Wage and Hour Public Contracts Division Payroll Form WH-347 or its equivalent and contain only information relevant to the job and be **serially numbered starting with payroll number one.**

The contractor shall be responsible for submission of all subcontractors' payroll records covering work performed directly at the work site. Each copy of the payroll records shall be accompanied by a statement signed by the contractor or the subcontractor, indicating that the wage rates contained therein are not less than those established by the Commissioner as set forth in the contract, that the classification set forth for each worker or apprentice conforms with the work performed, and that the contractor or subcontractor, as the case may be, has complied with the provisions of the law.

A contractor or subcontractor may make deductions that are (1) required by law; (2) required by a collective bargaining agreement between a bona fide labor organization and the contractor or subcontractor; or (3) contained in written agreement between an employee and an employer undertaken at the beginning of employment, if the agreement is submitted by the employer to the public body awarding the public work and is approved by the public body as fair and reasonable.

If the contractor is delinquent in submitting payroll records, processing of partial payment estimates may be held in abeyance pending receipt of the records. In addition, **if the contractor is delinquent in submitting the payroll records, the contractor shall be liable to the contracting public body for liquidated damages. The liquidated damages shall constitute the sum of $10.00 for each calendar day that the records are late.**

Only apprentices **REGISTERED WITH THE MARYLAND APPRENTICESHIP AND TRAINING COUNCIL** shall be employed on Prevailing Wage Projects. Apprentices shall be paid a percentage of the determined journey person's wage for the specific craft.

Overtime rates shall be paid by the general contractors and subcontractors under its contracts and agreements with their employees, which in no event shall be less than time and one-half the prevailing hourly rate of wages for all hours worked in excess of **ten (10) hours in any one calendar day; in excess of forty (40) hours per** workweek; and work performed on Sundays and legal holidays.

Contractors and subcontractors employing a classification of worker for which a wage rate was not issued, SHALL notify the Commissioner of Labor & Industry, Prevailing Wage Unit, for the purpose of obtaining the wage rate for said classification **PRIOR TO BEING EMPLOYED** on this project. To obtain a prevailing wage rate, which was NOT listed on the Wage Determination, send a WRITTEN request for the specific omitted rate or craft to the Division of Labor & Industry, Prevailing Wage Unit, 1100 N. Eutaw Street, Room 607, Baltimore, Maryland 21201.

The fringe benefit packages of the contractor, and all subcontractors working under him, must be submitted indicating the hourly dollar amount paid, along with proof of payment, on behalf of each employee working on

PREVAILING WAGE INSTRUCTIONS FOR THE CONTRACTOR [Con't]

the project. Apprenticeship Papers shall be submitted for each apprentice employed on the project. A valid copy of the Construction License for the contractor and subcontractors, permitting them to perform construction work in the State of Maryland must be submitted. Forward the **subcontractors list**, the **fringe benefits packages**, the **apprenticeship papers** and the **construction licenses** to the above address.

Under the MARYLAND APPRENTICESHIP AND TRAINING COUNCIL laws and regulations, "A minimum ratio of one journey persons regularly employed for one apprentice consistent with proper supervision, training and continuity of employment and applicable provisions in collective bargaining agreements. No deviation from the minimum shall be permitted unless first submitted to the council, in writing, for its approval."

The apprentice ratio is as follows:

JOURNEYMEN -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
APPRENTICES -	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Laborers may **NOT** assist mechanics in the performance of the mechanic's work, **NOR USE TOOLS** peculiar to established trades.

ALL contractors and subcontractors shall employ only competent workers and apprentices and may **NOT** employ any individual classified as a **HELPER** or **TRAINEE** on a Prevailing Wage Project.

DLLR
STATE OF MARYLAND
DEPARTMENT OF LABOR, LICENSING AND REGULATION

ROBERT L. EHRLICH, Jr., Governor
MICHAEL S. STEELE, Lt. Governor
JAMES D. FIELDER, Jr., Ph.D., Secretary

DLLR Home Page • http://www.dllr.state.md.us
DLLR E-mail • dllr@dllr.state.md.us

April 21, 2006

Dear Apprenticeship Program Sponsor:

Effective Monday, April 10, 2006 the amendment to Regulation .05 under **COMAR 09.12.43 Maryland Apprenticeship and Training** became final. The amended regulation now reads as follows:

.05 Standards of an Apprenticeship Program.

A.—G. (text unchanged)

H. Ratio of Journeypersons to Apprentices.

(1) Each program shall have a minimum ratio of *one journeyperson* regularly employed for one apprentice consistent with proper supervision, training, and continuity of employment and applicable provisions in collective bargaining agreements.

(2) (text unchanged)

I.—L. (text unchanged)

Effective immediately, all apprenticeship programs registered with the Maryland Apprenticeship and Training Council may begin to employ and train apprentices under the amended ratio.

If you have questions regarding the amended ratio, please direct them to the Maryland Apprenticeship and Training Program office at 410-767-2246 or to the Apprenticeship and Training Representative who has been assigned to your apprenticeship program.

Sincerely,

John P. Taylor
Manager
Maryland Apprenticeship and Training Program